NOVEMBER 1966

EMPLOYMENT SERVICE REVIEW

UNIVERSITY OF MICHIGAN
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PERIODICAL READING ROOM

HEALTH MANPOWER

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HEALTH MANPOWER

This issue of the REVIEW is designed to provide a broad backdrop of information on the manpower situation in health services. It contains articles from a wide variety of knowledgeable sources which illuminate many aspects of the multifaceted problems that are giving rise to much current concern. The views expressed are those of the authors and do not necessarily reflect official opinions or policies of the U.S. Employment Service. Special acknowledgement is made to Mrs. Mary Resh, Deputy Assistant Manpower Administrator, who gave valuable assistance in planning the issue and preparing the bibliography.

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U.S. DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary

MANPOWER ADMINISTRATION
Stanley H. Ruttenberg, Administrator

BUREAU OF EMPLOYMENT SECURITY
U.S. EMPLOYMENT SERVICE

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UNITED STATES DEPARTMENT OF LABOR

EMPLOYMENT SERVICE REVIEW

BUREAU OF EMPLOYMENT SECURITY
Robert C. Goodwin, Administrator

U.S. EMPLOYMENT SERVICE
Frank H. Cassell, Director

ELSIE SOLTAR DORMAN, Editor

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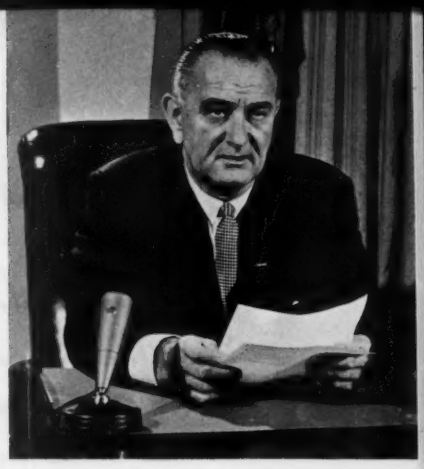
Health Manpower Shortage



We have made great progress in this country in bringing medical services to all our people. Advances in medical science and our increasing capacity to give better medical care impose a heavy demand for trained people to provide these services. Our examination of the Nation's health problem makes clear that the most critical need is in the manpower field. I am very hopeful that the National Advisory Commission on Health Manpower, chaired by J. Irwin Miller, will produce plans for increasing the supply of health manpower and improving the ways in which we use that supply.

Congress has passed major legislation to improve and expand our resources in health manpower. These include:

—The Manpower Development and Training Act
—The Vocational Education Act
—The Health Professions Educational Assistance Act
—The Nurse Training Act
—The Heart Disease, Cancer, and Stroke Amendments
—The Economic Opportunity Act.

Programs authorized by this legislation will provide thousands of well-trained health workers to bring the benefits of modern medicine to all Americans.

In addition, Congress is now considering the allied health professions personnel training bill to provide specially trained health workers and teachers, and the comprehensve health planning bill to permit better utilization of health workers in State and local programs. I urge passage of this vital legislation.

Meanwhile, I have asked the Secretary of Labor, the Secretary of Health, Education, and Welfare, the Administrator of the Veterans Administration, and the Director of the Office of Economic Opportunity to examine our training programs to determine how they can be better focused on shortages in this field, especially programs designed to bring back trained workers not presently employed.

Because of the budgetary situation, it is of the utmost importance that we employ ingenuity and imagination to adjust existing programs to meet this urgent health manpower need.

Finally, I have asked the Secretary of Health, Education, and Welfare to cooperate with the American Hospital Association, the American Medican Association, and the American Nurses Association in making an intensive study of hospitals which provide efficient and economical use of nurses and other health workers. We must seek to extend such experience to hospitals throughout the country.

Statement by the President Urging Program Adjustments To Meet Needs.
September 29, 1966

XUM

The White House
Washington, D.C., September 29, 1966.

The Honorable the Secretary of Labor.

Dear Mr. Secretary:

Our examination of the nation's health problem makes clear that the most critical need is in the manpower field. I am very hopeful that the National Advisory Commission on Health Manpower, chaired by J. Irwin Miller, will produce plans for increasing the supply of health manpower and improving the ways in which we use that supply.

In the meanwhile, however, I want to be sure that we explore every existing possibility to help meet this need. The federal government has a number of programs and facilities which we should be able to utilize. I would like to make certain that federal training programs are better focused on this problem, including programs to bring back trained workers not presently employed in the health field.

I would like you to work with Secretary Gardner, Veterans Administrator Driver and Director Shriver of the Office of Economic Opportunity and submit your joint proposals to me at the earliest practicable time.

Because of the budgetary situation, with which you are fully familiar, it is of the utmost importance that we employ ingenuity and imagination to adjust existing programs to meet our urgent health manpower needs.

Sincerely,

Lyndon B. Johnson

The Challenge of Health Manpower

FRANK H. CASSELL
Director
U.S. Employment Service

Great strides in medical research, technological aids to diagnosis and treatment, extension of hospital and health insurance plans (including Medicare), and the expansion of a more health conscious population have made health services one of the fastest growing sectors of the economy. As a result, chronic shortages of medical and health personnel have been intensified. Meeting these shortages will require a many-pronged approach and joint efforts of many groups and organizations. The Employment Service is a major member of the team.

Much has been done through legislation in the past few years to increase the supply of professionals in the health field by providing funds for training facilities and financial aid to students. Crucial needs remain for identifying requirements for the paramedical and auxiliary health personnel and recruiting and developing the many additional workers needed in the next few years.

It is in each local Employment Service office that an all-out effort must be made to anticipate and prepare to meet growing health manpower shortages. Local office initiative must translate national goals into practical action in the local area. In each local community specific information about job opportunities and their requirements must be assembled, manpower resources must be recruited, developed, and trained, and employers assisted in utilizing the manpower supply to the best advantage.

The underutilized manpower resources of the disadvantaged offer a great potential for meeting the needs of a great variety of health occupations. With the right opportunities and the right kind of help, many can become competent, productive health service workers. For their part, employers have much to do in improving administration and providing for increased productivity and wages. Career ladders and other incentives for a stable work force must be developed.

Our newly formulated Human Resources Development Program for the disadvantaged offers opportunity to combine the objectives of meeting manpower shortages and developing employability. The four major functions of the program are (*a*) Outreach to the disadvantaged to bring them into meaningful contact with manpower services; (*b*) improving employability through counseling, training, and referral to supportive health and welfare services; (*c*) developing job opportunities and placement; and (*d*) providing job market information on where the jobs are and what is required to perform them.

Our challenge is twofold: We must reach out to the disadvantaged and deprived and motivate them to undertake the remedial education, skill training, and rehabilitation that will develop their employability. We must also reach out to the employers—and health services are among the largest—to identify the requirements of their jobs and to assist them with technical services that will help them in efficient utilization of personnel.

Health Manpower—An Emerging Challenge

WILLIAM MIRENGOFF

Reflecting the increasing public concern about health manpower, the President recently appointed a National Advisory Commission on Health Manpower, and established a Cabinet-level President's Committee on Health Manpower.

Health manpower has moved to the center of the stage with the growing awareness, among both professionals and laymen, of the dramatic transformation of manpower requirements taking place in the health service industry. This transformation, including a massive expansion of the work force, major changes in technology and in the employment and occupational patterns of the work force, have introduced new strains on the institutions and adjustment processes of the job market.

CHANGE IN MANPOWER REQUIREMENTS

Growth of Employment

The health services have grown to be one of the largest sources of employment in our national economy. The total number of persons engaged in all types of health-related activities is approximately 3.5 million. Within the establishments which specifically form the health service industry (mainly hospitals, nursing homes, doctors' offices, and commercial laboratories), payroll employment has risen from 1.7 million in 1950 to more than 2.6 million at present, with a gain of another million expected by 1975.* The growth rate predicted for the next decade—well over one-third—is one of the highest of all industry groups. In fact, the health service industry will shortly become either the largest or second largest employer in the country.

A number of factors combine to account for this rapid growth. The growing affluence of our society has been accompanied by greater demand for high-quality health care. The expansion of health insurance coverage has helped to finance this care—a large majority of Americans currently have at least some coverage under health insurance plans. The "population explosion" has had its effect. Government subsidies for hospital construction have raised manpower requirements. A significant increase of older people in the population has added to demand for health service workers. So has the rapid growth of the research and development sector of the industry. Additional demand is expected to result from the recently enacted Medicare program, and from the expansion of health services for low-income persons under the amended Social Security Act (Medicaid) and the Economic Opportunity Act. Finally, a major expansion in the number, capacity, and type of services of nursing homes over the next decade will sharply increase requirements.

William Mirengoff is Deputy Director, Office of Manpower Policy, Evaluation and Research, Manpower Administration, and Chairman of the Intradepartmental Committee on Health Manpower. *Assistance in preparation of this article was provided by Albert Shostack, Special Assistant, Office of Manpower Policy, Evaluation, and Research.*

* *Figures for the health services industry exclude doctors and dentists who are self-employed in private practice, workers such as drugstore pharmacists who may be classified in retail trade, Government employees, and other categories.*

Average Number and Percent Distribution of Persons Reported as Limited in Activity, by Selected Chronic Conditions Causing Limitation According to Degree of Limitation: United States, July 1961–June 1963

[Data are based on sample household interviews of the civilian, noninstitutional population]

Selected chronic conditions	Average number of persons with condition in thousands [2]				Percent distribution [3]			
	All degrees of activity limitation	With limitation but not in major activity [1]	Limited in amount or kind of major activity [1]	Unable to carry on major activity [1]	All degrees of activity limitation	With limitation but not in major activity [1]	Limited in amount or kind of major activity [1]	Unable to carry on major activity [1]
Persons limited in activity	22,225	6,135	11,975	4,116	100.0	100.0	100.0	100.0
Tuberculosis, all forms	171	(*)	100	46	.8	(*)	.8	1.1
Malignant neoplasms	236	(*)	99	108	1.1	(*)	.8	2.6
Benign and unspecified neoplasms	238	63	121	55	1.1	1.0	1.0	1.3
Asthma-hay fever	1,118	388	547	183	5.0	6.3	4.6	4.4
Diabetes	537	99	272	167	2.4	1.6	2.3	4.1
Mental and nervous conditions	1,701	435	841	425	7.7	7.1	7.0	10.3
Heart conditions	3,567	670	1,893	1,004	16.0	10.9	15.8	24.4
Hypertension without heart involvement	1,330	332	772	225	6.0	5.4	6.4	5.5
Varicose veins	524	156	302	66	2.4	2.5	2.5	1.6
Hemorrhoids	287	71	165	51	1.3	1.2	1.4	1.2
Other conditions of circulatory system	835	205	397	233	3.8	3.3	3.3	5.7
Chronic sinusitis and bronchitis	608	192	322	94	2.7	3.1	2.7	2.3
Other conditions of respiratory system	461	85	235	140	2.1	1.4	2.0	3.4
Peptic ulcer	544	145	286	113	2.4	2.4	2.4	2.7
Hernia	590	107	365	118	2.7	1.7	3.0	2.9
Other conditions of digestive system	1,020	221	553	246	4.6	3.6	4.6	6.0
Conditions of genitourinary system	1,110	295	582	233	5.0	4.8	4.9	5.7
Arthritis and rheumatism	3,300	714	1,888	697	14.8	11.6	15.8	16.9
Other diseases of muscles, bones, and joints	801	263	447	92	3.6	4.3	3.7	2.2
Visual impairments	1,228	179	514	535	5.5	2.9	4.3	13.0
Hearing impairments	480	95	201	184	2.2	1.5	1.7	4.5
Paralysis, complete or partial	899	141	324	434	4.0	2.3	2.7	10.5
Impairments (except paralysis) of back or spine	1,667	459	1,047	160	7.5	7.5	8.7	3.9
Impairments (except paralysis and absence) of upper extremities and shoulders	341	72	219	50	1.5	1.2	1.8	1.2
Impairments (except paralysis and absence) of lower extremities and hips	1,374	400	717	257	6.2	6.5	6.0	6.2

[1] Major activity refers to ability to work, keep house, or engage in school or preschool activities.

[2] Summations of conditions causing limitation may be greater than the number of persons limited because a person can report more than one condition as a cause of his limitation; on the other hand, they may be less because only selected conditions are shown.

[3] Percentages may add to more than 100 because a person can report more than one condition as a cause of his limitation; on the other hand, they may add to less than 100 because only selected conditions are shown.

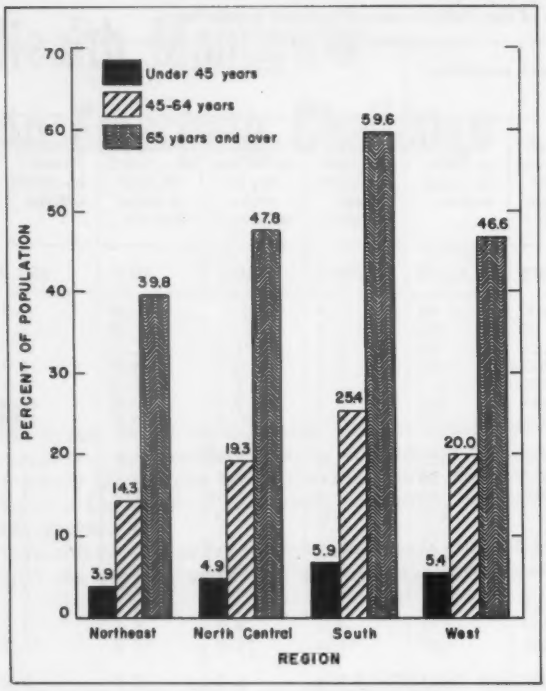
Source: "Chronic Conditions and Activity Limitation, United States, July 1951–June 1963," Public Health Service, Department of Health, Education, and Welfare.

* Not available.

Changing Occupational Composition

Most people tend to think of health services in terms of doctors, dentists, and nurses. It is true that this highly trained core of professionals is the key element of the health service work force. But they account for little more than 1 million of the total. The remaining group, totaling some 2.5 million, is composed mainly of about 800,000 practical nurses, attendants, and nurse aides; several hundred thousand technicians and therapists skilled in X-ray and laboratory procedures, rehabilitative treatments, and other specialists; and a wide range of supportive personnel concerned with recordkeeping, administration, food handling, supplies, housekeeping, and related tasks. These workers range from unskilled jobs

Percent of population with chronic limitation of activity, by age and geographic region.



Source: "Age Patterns in Medical Care, Illness, and Disability, United States, July 1963–June 1965," Public Health Service, Department of Health, Education, and Welfare.

to highly skilled professions and they constitute a dynamic element in the total work force.

The occupational composition of health manpower is undergoing important changes. The growth rates and proportion of the work force represented by each occupation have varied in response to changes in technology and in approaches to health care.

Among doctors, the trend has been toward increased specialization. The number of general practitioners, pediatricians, and internists actually dropped from 117,000 in 1940 to less than 100,000 in 1963, while the number of other medical specialists has grown. Overall, doctors have increased at a slower rate than nurses, technicians, and most other health service occupations.

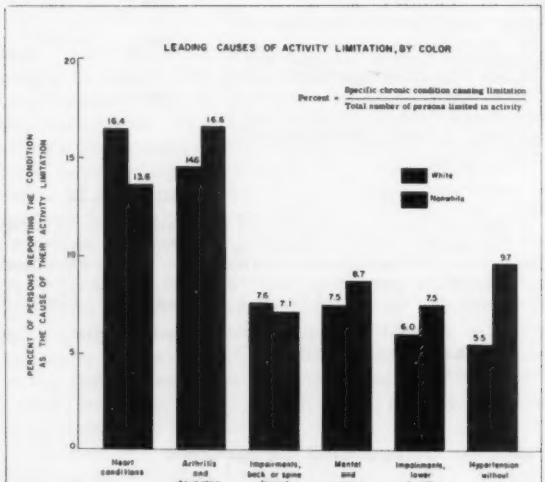
The greatest absolute gains in employment are being made by workers who provide nursing care. There are currently about 600,000 registered professional nurses and an ever larger number of licensed practical nurses, nurse aides, and related workers. These figures represent sharp increases over earlier periods and still greater gains are expected during the next decade. Within the nursing care job family, however, gains have been uneven. Between 1950 and 1960, the greatest growth (90 percent) was in nursing occupations at the lower end of the skill ladder—aides, orderlies, and attendants. Employment of licensed practical nurses in hospitals rose by 50 percent during the decade, while there was only a one-third increase in the most skilled category—registered nurses. These facts reflect, to some extent, local shortages of registered nurses, changes in technology, and efforts by hospitals and other health institutions to relieve professional employees of routine duties which can be handled by workers in the lower skill and salary ranges. The rapid increase of the employment of subprofessionals in patient care is a basic trend of the industry.

Technical occupations such as X-ray technologist, medical technologist, laboratory technician, various types of rehabilitative therapists, and medical records technicians have also had an above-average rate of growth. Between 1950 and 1960, employment in these jobs rose by two-thirds or more, and a high growth rate will continue. This represents another key occupational change.

Changing Technology

To a large extent, the changing occupational mix reflects innovations in health technology. A recent research study prepared for the Manpower Administration's Office of Manpower Policy, Evaluation, and Research has identified dramatic innovations in equipment for diagnosis and patient care. Also affecting manpower are changes in handling hospital supplies and services, the handling and processing of both medical and administrative information, and improvements in the design of

Percent of persons with activity limitation who reported selected chronic conditions as the cause of their limitation, by color.



Source: "Chronic Conditions and Activity Limitation, United States, July 1961–June 1963," Public Health Service, Department of Health, Education, and Welfare.

Nongovernment Hospitals—Average Hourly Earnings of Employees in Selected Occupations, by Region, Mid-1963

[Data relate to cash wages only]

Occupation	United States	Northeast	South	North Central	West
General duty nurses	$2.15	$2.13	$1.93	$2.20	$2.29
X-ray technicians	2.05	2.07	1.91	2.04	2.24
Clerks, payroll	1.88	1.92	1.74	1.86	2.05
Stenographers, technical	1.92	1.92	1.76	1.91	2.14
Switchboard operators	1.56	1.63	1.30	1.60	1.69
Switchboard operators-receptionists	1.45	1.40	1.30	1.40	1.74
Transcribing-machine operators, technical	1.72	1.75	1.56	1.69	2.05
Dishwashers, machine	1.18	1.22	.92	1.23	1.46
Electricians, maintenance	2.45	2.42	2.35	2.59	2.72
Engineers, stationary	2.56	2.57	2.26	2.56	2.78
Finishers, flatwork, machine	1.18	1.24	.88	1.25	1.44
Housekeepers, chief	2.45	2.59	1.96	2.57	2.62
Kitchen helpers	1.19	1.24	.89	1.24	1.43
Maids and porters	1.23	1.28	.89	1.29	1.51
Nursing aids	1.27	1.32	1.01	1.31	1.51
Practical nurses	1.56	1.61	1.35	1.61	1.72
Washers, machine	1.45	1.47	1.14	1.50	1.74

Source: "Nongovernment Hospitals, January 1965," Wage and Hour and Public Contracts Divisions, U.S. Department of Labor. Special tabulations prepared by Bureau of Labor Statistics for WHPC.

health facilities. Computers and automation are beginning to enter the field in a big way.

New concepts and approaches have affected manpower needs. For example, the number of laboratory and diagnostic X-ray procedures per patient has been increasing, raising demands for technicians in these fields. The ratio of employees to hospital patients has been rising sharply, but the average stay of the patient in hospitals has been shortened and there has been a rise in outpatient care. This trend is especially marked in psychiatric hospitals, strongly affecting the types of jobs that are found in their occupational structure. Experimentation with new ways of providing health care to patients in their own homes is currently creating jobs for health aides at the lower end of the skill ladder.

Structural Changes in the Industry

In addition to changes in occupations, employment has shifted among the various segments of the health service industry. The proportion of workers employed by hospitals has been growing, from three-fifths in 1950 to almost two-thirds in 1960. It is expected to reach three-fourths in 1970. At present the hospitals account for almost 2 million of the industry's workers, with the remainder employed mainly in nursing homes, offices, clinics, and laboratories.

The greatest growth has occurred among short-term general hospitals, which currently account for over 70 percent of all hospital employees. Employment in short-term general hospitals will probably increase as the population of long-term psychiatric hospitals continue to drop and as Medicare and other Government programs reduce the number of patients who apply for admission to Veterans Administration hospitals.

Perhaps the most dynamic structural factor in the next decade will be a massive growth in the number and capacity of nursing homes. By 1975, the number of nursing home beds is expected to more than double, with employment far exceeding the current level of 250,000. Since nursing-home workers tend to be concentrated at the lower end of the skill ladder, the growth of this segment of the industry will contribute mainly to the rising demand for nurse aides, attendants, practical nurses, and auxiliary personnel. But rising standards of patient care will create an increased need for professional nurses and therapists, as well.

Other structural factors may have an impact on future manpower requirements, e.g., the proportion of hospitals that are owned by local or State governments, voluntary groups, or profit-oriented organizations; trends in group practice of medicine; and trends in the size of hospitals and nursing homes.

SHORTAGE OF MANPOWER

In view of the expansion, changing structure, and other shifts underway in health manpower, it is only natural that the public should be concerned about whether the transformation is occurring in an orderly manner and whether effective plans are being made to cope with emerging needs. This concern includes the maintenance of the highest standards of medical care and the need to avoid undue increases in the cost of medical attention, which has been rising faster than other consumer costs in recent years. Perhaps the most immediate area of concern is the need to insure an adequate supply of health workers—when and where they are needed, in the proper numbers, and equipped with the proper skills. In fact, most authorities agree that shortages of health workers already exist in many areas and that even bigger shortages are likely to occur in the future unless prompt countermeasures are taken. The long "leadtime" required for recruiting and training skilled health workers makes it essential that effective planning begin long in advance if the predicted shortages of workers are to be prevented.

How big is the current shortage? The exact magni-

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tude cannot be pinpointed since it depends on one's basic assumptions and definitions. One analyst may define the shortage as the number of actual job vacancies that are currently unfilled. Another analyst may set up some theoretical standard of adequate medical care and may measure shortages against this hypothetical standard. Moreover, estimates of shortages for individual occupations vary because there are differences of opinion about the proportion that each occupation should represent in the total occupational mix. To complicate the matter still further, workers in some occupations, particularly in the nursing field, are interchangeable for borderline duties. Other question marks are fluctuations in the manpower needs of the Armed Forces and the effects of variations in wages offered to health workers.

In spite of these problems, a number of attempts to estimate current shortages have been made. Public Health Service preliminary rough estimates indicate that about a half million additional workers are needed, merely to bring health employment standards throughout the country to the level of that existing in the northeastern region. Of this number, perhaps 400,000 are needed to meet current demands in hospitals—a 20 percent increase of total hospital employment. Rough estimates of shortages by occupation include at least 100,000 doctors, 75,000 nurses, 25,000 licensed practical nurses in hospitals, 16,000 occupational therapists, 15,000 X-ray technologists, 30,000 medical technologists, and many other workers in such occupations as physical therapy, medical record handling, and subprofessional jobs in dentistry.

Nationwide estimates conceal the uneven distribution of health workers in different localities. For example, there are over 1,500 health workers per 100,000 people in the Northeast, but less than 1,000 in the South. The number of nurses per 100,000 people is over 400 in the Northeast and little more than 200 in the South. Measures to correct shortages must give consideration to such differences, as well as to differences between rural and urban areas.

Estimates of shortages in future years are even more difficult to make. They must depend on predictions about future technological change and predictions about the output of health workers from the Nation's varied educational and training programs. Over the next 10 years, some 10,000 new workers must be added to the health work force each month to meet rising manpower requirements. An additional number must be available to replace workers who are separated from the industry by death, retirement, or other reasons.

According to one preliminary estimate, to meet requirements in 1975, the annual output of dental hygienists must more than triple; the annual output of medical technologists and X-ray technicians must double; and the output of medical record librarians must increase five times. For occupational and physical therapists, the annual output must increase some 10 times. Unless government agencies, educational facilities, professional associations, hospitals, and other training institutions plan to meet these needs, serious manpower dislocations may occur.

Nursing Homes and Related Facilities—Average Straight-Time Hourly Earnings of Nonsupervisory Employees in 6 Selected Occupations, by Region, April 1965

[Data relate to cash wages only]

Occupation	United States	Northeast	South	North central	West
All occupations [1]	$1.23	$1.46	$0.90	$1.14	$1.44
Registered professional nurses	2.28	2.35	2.03	2.22	2.40
Licensed practical nurses	1.57	1.72	1.28	1.54	1.65
Nurses' aides	1.06	1.28	.75	1.02	1.29
Kitchen helpers	1.06	1.23	.76	.97	1.27
Laundry workers	1.01	1.24	.72	.99	1.26
Maids and porters	1.10	1.26	.76	1.04	1.31

[1] Averages for all occupations relate to all employees and not averages for the 6 occupations shown in the table.

Source: "Nursing Homes and Related Facilities," Wage and Hour and Public Contracts Divisions, U.S. Department of Labor, January 1966. Survey conducted by Bureau of Labor Statistics for WHPC.

POLICIES TO PREVENT SHORTAGES

What should be done to reduce the current shortage of health manpower? And what should be done to prevent the massive shortages looming in the future? A part of the answer lies in the development of new medical technology and procedures—a field which must necessarily be left to doctors and others with appropriate technical qualifications. In the field of manpower analysis, distribution, utilization, and development, however, a number of suggestions have been made for urgent public consideration. They involve action by the Federal, State, and local governments, organizations which operate hospitals, educational groups, professional societies, and others.

Better Utilization of Workers

An essential step is improvement of the utilization of workers who are already employed in providing health services. Hospitals and other employers should be encouraged and assisted to analyze the content of health service jobs to insure that the time of skilled workers is

Number and Percent of Persons With 1+ Chronic Conditions, by Sex and Age: United States, July 1964–June 1965

[Data are based on sample household interviews of the civilian, noninstitutional population]

Sex and age	Total population, in thousands	Persons with 1 or more chronic conditions	
		Number in thousands	Percent of population
BOTH SEXES			
All ages	188,430	87,301	46.3
Under 17 years	66,343	14,187	21.4
17 to 24 years	21,299	8,406	39.5
25 to 44 years	45,299	25,013	55.2
45 to 64 years	38,196	25,277	66.2
65 and over years	17,292	14,418	83.4
MALE			
All ages	91,311	40,683	44.6
Under 17 years	33,726	7,669	22.7
17 to 24 years	9,962	3,741	37.6
25 to 44 years	21,613	11,273	52.2
45 to 64 years	18,401	11,770	64.0
65 and over years	7,610	6,230	81.9
FEMALE			
All ages	97,119	46,618	48.0
Under 17 years	32,618	6,519	20.0
17 to 24 years	11,337	4,665	41.1
25 to 44 years	23,686	13,739	58.0
45 to 64 years	19,795	13,507	68.2
65 and over years	9,683	8,188	84.6

Source: "Current Estimates From the Health Interview Survey, United States, July 1964–June 1965," Public Health Service, Department of Health, Education, and Welfare.

not wasted on routine tasks and that their skills are fully used. Where necessary, new job classifications should be added to the traditional occupational structure to facilitate the employment of lower skilled workers, who are not in short supply, for chores which currently take up the time of higher skilled personnel.

Government and private research on ways to increase the productivity of hospital manpower should be expanded. In fact, the measurement of productivity in this industry is still in its infancy, compared with our sophisticated knowledge of productivity in manufacturing and other sectors. Among other things, we should know more about the effect of the size, structure, organization, coverage, and techniques of hospitals on efficient use of human resources.

Currently, progression of individuals from less skilled to higher skilled nursing jobs faces difficult barriers, including educational and licensing requirements and traditional concepts of training and career mobility. To make fuller use of the skill potentials of nursing employees and to provide them with incentives to make their maximum contribution, consideration should be given to developing new promotion opportunities, or "career ladders," running from the nurse aide through the supervisory nursing level.

Wages and Working Conditions

A logical step toward attracting and retaining more workers is the improvement of wages and working conditions. In spite of the importance of the health service industry, wages have not been comparable with those of most other employees. In 1965, for example, nearly three-tenths of the nonsupervisory workers employed in nursing homes earned less than $1 per hour. The average hourly earnings of nurse aides in nursing homes was only $1.06. Pratcical nurses in the same establishments averaged $1.57—a laborer's wage for a relatively skilled and essential job.

The situation is no better for registered nurses. In 1963, for example, the average annual earnings of nurses in metropolitan area hospitals, at $4,450, was about $2,000 less than the average teacher's salary.

Relatively low earnings and lack of promotion opportunities often combined with difficult working conditions and inconvenient working hours, help explain the fantastically high rate of labor turnover in this industry. It is estimated that the annual turnover rate is 60 percent for nurses, 70 percent for nurse aides, and more than one-third for practical nurses.

Low-paid health workers will benefit from the enactment of amendments to the Fair Labor Standards Act in September 1966. The amendments establish a minimum wage applicable to non-Federal hospital employees. However, since the minimum is initially set at only $1 per hour, rising to $1.60 in gradual steps over the next few years, its impact on the recruitment of hospital workers will probably not be substantial.

Recruitment Practices

How can new workers be recruited in greater number? As a preliminary step, it would be a good idea to review the qualifications demanded of applicants to make sure that recruitment is not being hampered by artificial or unduly rigid hiring specifications. Similarly, the licensing requirements for professional or technical occupations should be reviewed continuously to eliminate outmoded specifications which curtail recruitment. Third, many experts have suggested efforts to bring back to the health field the large number of professional, technical, and skilled workers who have either left the labor force or shifted to other lines of work. It is estimated

Age-Adjusted [1] Percent Distribution of Persons, by Degree of Chronic Activity Limitation According to Color, Family Income, and Marital Status: United States, July 1961–June 1963

[Percent distribution]

Characteristic	All persons	Persons with no chronic conditions	Persons with 1+ chronic conditions				
			Total	With no limitation of activity	With limitation, but not in major activity [2]	With limitation in amount or kind of major activity [2]	Unable to carry on major activity [2]
Population—all ages	100.0	55.9	44.1	31.9	3.4	6.6	2.3
Color:							
White	100.0	55.3	44.7	32.7	3.5	6.4	2.1
Nonwhite	100.0	60.0	40.0	25.4	2.6	8.2	3.8
Family income:							
Under $2,000	100.0	53.0	47.0	28.0	3.8	11.2	4.1
$2,000 to $3,999	100.0	55.8	44.2	29.8	3.6	8.1	2.7
$4,000 to $6,999	100.0	56.7	43.3	32.5	3.4	5.7	1.7
$7,000+	100.0	55.8	44.2	35.1	3.3	4.4	1.4
Marital status:							
Population—17+ years	100.0	42.6	57.4	39.7	4.6	9.8	3.4
Ever married	100.0	40.5	59.5	41.4	4.8	10.0	3.3
Never married	100.0	51.0	49.0	32.7	3.4	8.5	4.3

[1] Adjusted to the age distribution of the total civilian, noninstitutional population of the United States.
[2] Major activity refers to ability to work, keep house, or engage in school or pre-school activities.

Source: "Chronic Conditions and Activity Limitation, United States, July 1961–June 1963," Public Health Service, Department of Health, Education, and Welfare.

that thousands of women—registered and practical nurses, technicians, and therapists of various types—who have left their jobs to raise families or for other reasons can be induced to return to the health field if arrangements for part-time employment, refresher training, child-care services, or other services can be improved. Because two-thirds of all health workers are women, they have a particular need for flexible and part-time work schedules.

Accompanying intensified recruitment, there is a need to develop new programs to channel adequate manpower to low-income areas and to rural areas which have not succeeded in attracting an adequate health work force. The development of Federal or local government incentives, supplemented by financial assistance from private foundations, deserves exploration to meet this need.

Education and Training

To insure an adequate flow of well trained manpower, high priority should be given to a thorough review and expansion of our resources and practices for training health workers. Courses should be reviewed to insure that their content keeps pace with rapidly changing health technology and that the duration of training is held to a minimum. There is a need to expand training to update and upgrade the skills of currently employed workers and to help them advance in the occupational hierarchy. There is also a need to expand training for newly emerging occupations in the health field.

The growing Federal Government training programs must also be reviewed as part of the total resources for producing health manpower. Assistance for training doctors and nurses under the Public Health Service Act and the Nurse Training Act, and the training of health workers, primarily practical nurses and aides, under the Vocational Education Act, are examples of good beginnings in this area. Almost 60,000 unemployed and underemployed workers have also been authorized to receive training in health occupations under the Federal Manpower Development and Training Act. A beginning has been achieved in training disadvantaged people as home health aides and other health workers under the Community Action Program of the Economic Opportunity Act.

There is an urgent need to consider the progress made under these and related programs, to systematically evaluate the type and extent of manpower needs which remain to be filled, to determine the resources and means best suited to meet these needs, and to move additional training programs from the drawing board into action. In particular, much remains to be done to improve coordination between the various government agencies administering manpower development activities.

These are just a few of the ideas that are being discussed to meet current and emerging health manpower needs. Many other suggestions are under consideration. One recent development that may exert a long-

range influence is the growing activity in the field of collective bargaining. The development of mature labor-management relations in the health service industry, similar to those in other industries of national importance, may help to improve labor standards and earnings. In this connection, extension of the protection of the Federal Labor-Management Relations Act to health workers deserves thoughtful consideration.

DEPARTMENT OF LABOR ACTIVITIES

The Department of Labor has been concerned with health manpower for many years. Various bureaus of the Department have done pioneering work in analyzing the job content and occupational structure of health institutions, in preparing occupational outlook and other vocational guidance analyses, and in the collection of information on national and areawide employment, unemployment, skill shortages, wages, and labor standards. Operating activities of the Department include the continuous recruitment of health workers through the public Employment Service, arrangements for the employment of Neighborhood Youth Corps enrollees (some 20,000 to date) in health jobs, and arrangements to provide training in health occupations for unemployed and underemployed workers under the recently expired Area Redevelopment Act and under the Manpower Development and Training Act. Under the MDTA, well over $60 million has already been authorized for training in health occupations. It is expected that 35,000 more workers will be trained during the fiscal year ending June 30 1967—licensed practical nurses, nurse aides, technicians, nurses requiring refresher training, and many others.

Considerable work on health manpower has also been undertaken under the research and demonstration provisions of the MDTA. The Manpower Administration's Office of Manpower Policy, Evaluation, and Research is financing a number of forward-looking research projects, focused on new approaches in the utilization and development of scarce health service personnel. Simultaneously, a number of experimental projects are testing and demonstrating new approaches in this area, such as recruitment and use of disadvantaged groups, new training methods, the introduction of new subprofessional occupations, and the like.

Reflecting intensification of activities in the health manpower field, the Manpower Administration recently established an Intradepartmental Committee on Health Manpower. This group is assisting in providing leadership and coordination for the Department of Labor's work in this area. It will also facilitate assistance by the Department for the National Advisory Commission on Health Manpower and the President's Committee on Health Manpower.

The Intradepartmental Committee is supervising the preparation of reports on the current and expected supply and demand for health manpower, problems and practices of manpower utilization in hospitals, and other topics. It is also reviewing existing government and nongovernment programs for developing and allocating health manpower, including those at the State and local level, to establish a basis for recommending program improvements or new programs. Through the Committee, the Department of Labor expects to work in close cooperation with other agencies to help resolve the basic issues of health manpower and to plan ways of reducing the stresses and strains of the industry's manpower transformation.

Data in this article are drawn mainly from the following sources:

- Herman M. Sturm and Peter Haase, *Technology and Manpower in the Health Service Industry, 1965–1975;* U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research; October 1965 preliminary draft.
- Anne R. Somers, *Hospital Manpower: An Exploratory Report on Research;* Preliminary draft prepared for Industrial Relations Section, Princeton University; March 1966.
- U.S. Public Health Service, Division of Public Health Methods, *Needs for Health Manpower,* Staff paper No. 4 prepared for Subcommittee on Health Manpower of the DHEW Task Force on Health, Education, and Welfare Manpower; June 20, 1966 draft. (Useful reference was also made to other Public Health Service publications and to draft recommendations prepared by the Subcommittee on Health Manpower.)
- U.S. Department of Labor, Bureau of Labor Statistics, *Industry Wage Surveys: Nursing Homes and Related Facilities, April 1965, and Hospitals, Mid-1963;* Bulletins No. 1492 and 1409, respectively.
- Jeffrey H. Weiss, *The Changing Job Structure of Health Manpower,* Doctoral dissertation submitted to Harvard University, Department of Economics, July 1966.
- U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research, *Training Under the Manpower Development and Training Act for Health Occupations,* issued approximately February 1966. (More recent data are also available from subsequent OMPER reports.)

Executive Order 11279

Establishing the President's Committee on Health Manpower and the National Advisory Commission on Health Manpower

By virtue of the authority vested in me as President of the United States, it is ordered as follows:

SECTION 1. *Establishment of Committee.* (a) There is hereby established the President's Committee on Health Manpower (hereinafter referred to as the "Committee").

(b) The Committee shall be composed of the Director of the Office of Science and Technology, who shall be the Chairman of the Committee; the Secretary of Defense; the Secretary of Health, Education, and Welfare; the Secretary of Labor; the Administrator of Veterans Affairs; the Director of the Office of Economic Opportunity; the Director of the Office of Emergency Planning; and the Director of the Selective Service System.

SECTION 2. *Duties of the Committee.* (a) The Committee shall:

(1) Appraise the current and prospective national requirements for, and availability of, manpower to meet the health needs of the civilian population and the armed forces;

(2) Evaluate existing and alternative policies, programs, and practices of public agencies and private institutions and organizations for increasing health manpower and assuring maximum effective use thereof; and

(3) Develop appropriate recommendations for action by Government or by private institutions, organizations, or individuals for improving the availability and utilization of health manpower.

(b) Such recommendations shall take into account the final report of the National Advisory Commission on Health Manpower established by Section 3 of this order, which report shall be transmitted to the President with the recommendations of the Committee.

SECTION 3. *Establishment of Commission.* (a) To assist the Committee in carrying out its functions under Section 2 of this order, there is hereby established the National Advisory Commission on Health Manpower (hereinafter referred to as the "Commission").

(b) The Commission shall be composed of fifteen members appointed by the President, none of whom shall be officers or full-time employees of the Federal Government. The President shall designate the Chairman of the Commission from among its members.

SECTION 4. *Duties of the Commission.* (a) The Commission shall transmit to the Committee its independent analysis, evaluation, and recommendations with respect to all matters assigned to the Committee for study and recommendations.

(b) In carrying out its duties under subsection (a) above, the Commission shall:

(1) Make a comprehensive study and appraisal of the current situation and trends in the provisions of health care for the civilian population and the armed forces and their implications with respect to the current and prospective adequacy and utilization of manpower;

(2) Appraise the current policies, programs, and practices of public agencies and private institutions and organizations and other factors which have a bearing on the requirements for, and the availability of, health manpower and the effective allocation and utilization of such manpower; and

(3) Develop appropriate recommendations for action by Government or by private institutions, organizations, or individuals for improving the availability and utilization of health manpower.

(c) The Commission shall submit its final report and recommendations to the Committee no later than one year after the date of its first meeting, and shall make such interim reports as it deems will contribute to improving the availability and utilization of health manpower.

LYNDON B. JOHNSON

THE WHITE HOUSE,
May 7, 1966.

ANA Moves Ahead To Ease Nurse Shortage

JO ELEANOR ELLIOTT, RN

While many first-aid measures are being advocated as a cure for the nurse shortage, the American Nurses' Association is continuing to press forward on its long-term, multi-faceted plan in answer to the complex problem of too few nurses.

The current shortage, which is pegged at 125,000 nurses by the Division of Nursing, U.S. Public Health Service, is nothing new. The "new" is that it is being recognized and talked about for the first time by the consumers of health care—the American public. The plight of the profession with too few practitioners has become increasingly acute since World War II, when many future and prepared nurses were wooed away from the profession by more lucrative pursuits.

It was in this period that the American Nurses' Association initiated one of its most potent answers to the nursing shortage. It began its Economic Security Program, which has as its goal higher salaries and better working conditions for nurses. In the mid-1940's, recognizing that inadequate economic incentives could penalize the profession two ways, the professional association for registered nurses in this country counseled its constituents to strive for more adequate remuneration. The double penalty which ANA was striving to avoid was fewer men and women being attracted to nursing and prepared practitioners leaving nursing to enter more lucrative fields.

Jo Eleanor Elliott is President, American Nurses' Association, Inc.

Professional nurses and auxiliary nursing personnel work as a team in carrying out the nursing care planned to meet the needs of patients in their unit of the hospital. The professional registered nurse must supervise the team, assign duties, and correlate many aspects of the patients' care.

Health teaching is an important part of the professional nurse's work. She frequently works with the patient and his family long after hospital discharge.

The demand for nurses has grown as increased health services are made available to more people as a result of both scientific advances and Federal legislation.

Education for nursing includes extensive clinical experience as well as classroom studies. Programs vary from 2 to 4 years in associate degree, hospital, or baccalaureate programs.

XUM

Hand in hand with this economic thrust, the ANA has attacked the problem from many other vantage points including legislation, education, utilization, civil rights.

While inroads have been made in the economic area, on a national basis the registered nurse continues to receive a lower salary than teachers, dieticians, secretaries, and factory workers. Recognizing this fact, the American Nurses' Association, at its 1966 convention last June, adopted a National Salary Goal to sustain its economic drive. The national goal in essence states that in 1966 a registered nurse should enter nursing practice at a salary of not less than $6,500 annually.

In the next few months, many of the State nurse associations (constituents of ANA) will be devising ways and means to implement the National Salary Goal on the State level. The first State to act—Washington—sets its sights beyond the $6,500 figure, stipulating a $7,200 figure for beginning diploma school graduates and $8,000 for graduates with a baccalaureate degree. Through the actions of the various States, it is anticipated that the current national average salary of $4,800 will show a noticeable upward trend.

At the same time that ANA has initiated measures for nurses themselves to score economic gains, there has been constant monitoring on the national and State legislative scene, with ANA regularly testifying before congressional commitees regarding legislation affecting nursing—on behalf of both its 160,000 members and the American public.

ANA testimony in Congress has been concerned with a vast array of subjects, including education, fair labor standards, unemployment compensation, immigration, tax exemption for working mothers, status of nurses in the Armed Forces, social security amendments or Medicare, and manpower development. Through its sustained attention and expression of possible impact for nursing and for the public, ANA has seen its legislative efforts pay off with the passage of major legislation in 1964 and 1965.

The Nurse Training Act of 1964 was the first major piece of legislation devoted exclusively to nursing. The act provides $283 million over a 5-year period for nursing schools and nursing students. Although there were many pluses for nurses and nursing in the act, still missing were scholarship provisions for nursing students. Such scholarships may be on the horizon, though, as Senator Jacob K. Javits of New York, on September 1 introduced an amendment to the Allied Health Professions Personnel Training Act, which would provide scholarships as one of its four provisions for nursing. Senate committee hearings were held in October and ANA testified in favor of the scholarships.

In less than a year after the signing of the Nurse Training Act of 1964, the turning point in the health care philosophy of the United States was to occur with the signing of Medicare on July 30, 1965. As the only health care organization to support health care for the aged since the inception of the legislation in 1958, ANA discovered the successful end of the legislative battle was to become the beginning of a public awareness that there was and is a nursing shortage.

Health care was to become the right of every American, and as pioneers in this philosophy, ANA and the nursing

(*Continued on page 43*)

Recruiting members of minority groups into a nursing career is the aim of a national project undertaken by the National Student Nurses' Association.

XUM

Manpower Needs in Nursing Homes

JOHN W. CASHMAN, M.D.

Licensed nursing homes constitute probably the most rapidly expanding industry in the health field. The American Nursing Home Association estimates that 300,000 skilled nursing home beds (roughly half of all existing beds) have been built in the last 5 years, at a cost of more than $1.5 billion and the growth rate is accelerating. During 1965, some 60,000 new nursing home beds were constructed; the estimate for 1966 is more than 70,000 new beds. The average size of nursing homes has risen in recent years from 25 to 42 beds, with new construction now averaging 65 beds per home.

In terms of employment opportunities the nursing home industry has expanded greatly, not only in total numbers of staff required but also in range of needed skills.

The old concept of the nursing home as a "terminal care" institution is rapidly being altered by emphasis on rehabilitative services that can restore patients to a maximum level of self-reliance, including return to their own homes. This trend has been reflected in a rapidly increasing nursing home demand for the services of professional personnel such as physical and occupational therapists, speech and hearing therapists, dietitians, and medical social workers, with the accompanying need for aides to assist professional personnel.

Skilled nursing homes that meet Federal standards established for the Medicare program (called "Conditions of Participation for Extended Care Facilities") may be certified to provide services under that program starting January 1, 1967. Many of the conditions of participation relate to nursing home staffing requirements, and collectively they represent significant progress toward achieving a professional level of nursing home care. Thus the combination of higher standards and increased purchasing power to support those standards—the formula that has produced the modern quality nursing home care—will be strongly furthered by the Medicare program.

Payments for nursing home care under the new medical assistance program authorized in title XIX of the

Dr. John W. Cashman is Chief, Division of Medical Care Administration, Public Health Service, U.S. Department of Health, Education, and Welfare.

Social Security Amendments of 1965 may eventually prove of greater economic impact than even Medicare; welfare payments have supported more than half of patient care in nursing homes in recent years. Again, it is anticipated that State agencies will require the same standards of nursing homes participating in the title XIX program as are required for Medicare participation.

Private programs are likewise contributing to the financial support of a professional level of nursing home care. A notable example is the insurance plan of the United Automobile Workers, which became effective on September 1 of this year. Some 2½ million UAW workers and dependents are eligible, under this plan, for up to 730 days of skilled nursing home care benefits. Once more, standards will be the equivalent of Medicare standards.

To sum up, the goal of a high nationwide level of skilled nursing home care is being achieved at a rate which a few years ago would have been regarded as impossible. The widely varying licensure requirements of 50 States are rapidly being supplemented by national standards brought about through a partnership of Government and private action. In the latter connection, the private accreditation standards now in force nationally under the aegis of the Joint Commission on Accreditation of Hospitals closely approximate Medicare standards.

While there will always be an important place in our society for homes for the aged and other institutions offering purely custodial care for the elderly, the skilled nursing home as a medical care facility now appears certain to emerge in the role of a well defined and professionally competent community health resource. It

(*Continued on page 52*)

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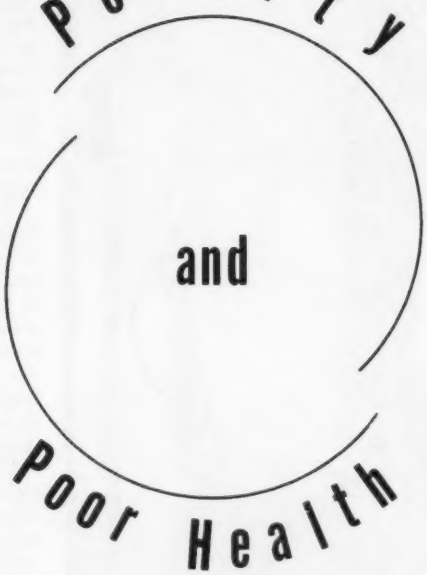
To Break the Cycle of Poverty and Poor Health



JOHN FRANKEL

"Without intervention, the poor get sicker, and the sick get poorer."

This statement from a speech by a Community Action Program health project grantee expresses the key reason for the interest of the Office of Economic Opportunity in improving health services for the poor.

Improvement in health services takes many things: a willingness to try, ideas and expertise, and resources—facilities, equipment, and manpower.

Community action for health may mean different things. Sometimes, it involves developing or expanding programs to improve the health of the poor within an existing framework. Thus, a health department may expand its services to reach out and include more of the poor in programs such as maternal and child health or family planning. In other situations, it means creating a new framework for delivery of care. Thus, OEO also is supporting innovative projects which add new elements or modify existing systems of services, making health services more comprehensive, accessible, acceptable, coordinated, or effective.

Dr. John Frankel is Director, Health Division, Community Action Program, Office of Economic Opportunity.

The most exciting example of this second category is the Neighborhood Health Center Program. Eight centers have been funded so far, in Boston, Chicago, Denver, Los Angeles, New York, and Mound Bayou, Miss. Each center tests varying methods of giving target area families a broad range of high quality health services in the neighborhoods in which they live. Each involves the residents of areas served, both in policymaking and as nonprofessional employees. Each center develops relationships with other community services and agencies, so that family members can be treated as a whole, rather than as a series of separate and unrelated problems. Each integrates all sources of health funds and services.

While each center demonstrates better means of providing health care, each also is a model of improved manpower distribution, utilization, development, and training.

1. The neighborhood health center (NHC) helps redistribute existing health manpower more equitably.

The physician drain from slum to suburb often leaves the areas needing health care most with the smallest supplies of health manpower to provide it. The NHC helps redress the balance, matching supply with demand by providing an attractive setting for professional practice.

Doctors and other health professionals find the center an ideal setting for combining service to the community with professional development.

2. The NHC benefits from use of the new source of health manpower—residents of the area served.

Men and women from the target areas find a new source of remunerative employment in the NHC. Doctors, nurses, and other professionals living in the area may participate in the work of the center. So too may a cadre of nonprofessionals, trained both to assist the professionals and to provide services not found in more traditional health care arrangements. Nonprofessionals in the centers now in operation serve as nurse aides, social work technicians, and health education aides. They also augment services by reaching out into the homes of area residents as home health aides, community health aides, and family agents.

3. The NHC makes possible the most efficient and effective use of health manpower, while providing a setting for manpower development and training.

The family health care team, including physicians, nurses, dentists, social workers, psychiatrists, and nonprofessional aides and technicians, provides comprehensive, high quality care which is acceptable not only to patients but also to those providing the care. Stratification of the patient and his family along the lines of the specialities of the professionals is avoided. The health care team treats the whole person and aggregates the problems, rather than treating a series of unrelated ills. Professionals are able to serve more patients with better care, since nonprofessionals free them from duties requiring lesser degrees of skill and training.

The NHC provides a perfect setting for training and development of health manpower. Professionals in training can use the center to obtain practical training in family care. Nonprofessionals can receive part or all of their training at the center, helping to provide service as they learn a new vocation.

The multipurpose neighborhood center is another new setting in which nonprofessional health manpower is being trained and employed. As the name implies, multipurpose neighborhood centers are home base for many services—health and welfare, legal aid, and special educational programs such as Head Start. Nonprofessionals can assist in all programs in the centers. Nonprofessionals assisting in health programs can help professionals in conducting public health activities, such as maternal and child health, and immunization and health education. They also can provide the valuable link with the community through the work of neighborhood health aides, reaching out to involve neighbors in community action for everything from family planning to environmental health.

In a complex of store-front neighborhood service centers in a large city, for example, trained nonprofessionals, called mental health aides, recruited from the neighborhood, serve as expediters to help families obtain needed services. Their assistance may range from helping in the preparation of housing project applications to assisting residents to establish eligibility for public assistance.

They may also arrange babysitting and transportation so that public health services may be used. The nonprofessional aide, working under professional supervision, acts as friend, neighbor, adviser, and arranger, and maintains a close relationship with people in crises.

Nonprofessionals also can play an invaluable part in expanding services in more traditional settings such as hospitals, health departments, and homes.

One rural county in the South has a comprehensive health program in which six local residents have been trained for work in a clinic. They perform Snellen chart examinations, and dip-stick urine tests. Two have trained in audiometry, while two others have learned to take an electrocardiogram. One now serves as a laboratory assistant. This project also has community health aides, called "homefront workers," who assist professional staff in health education, particularly in case finding and in teaching sanitation practices. Homefront workers ex-

plain the health program and help their neighbors see it in relation to specific needs. They also schedule appointments for members of the family before leaving the home.

CAP is interested in both aide level and more advanced training and has given particular attention to programs which develop new steps on career ladders for nonprofessionals in the health service field. If the aide is the bottom rung on the ladder, the assistant position may be the next level. In a program in a medium-size eastern city, 20 academically qualified high school graduates with personal roots in poverty are engaged in a 2-year training program at a community college to prepare for careers as public health assistants. The students are receiving practical experience as part-time employees of the local health department. They assist in weighing babies in the child health clinic; work with nurses doing physical examinations in school health programs; help to promote, organize, and conduct health study groups; assist in inspection and investigation of sanitary conditions in rooming houses, motels, hotels, schools, and theaters; and assist in investigating complaints relating to environmental sanitation.

Older men and women too can make a meaningful contribution in the health service occupations. A current series of national pilot programs is testing the notion that older men and women can serve as home health aides. Working in cooperation with the Public Health Service, CAP is continuing to develop projects testing different methods of recruitment, selection, and training of aides. These men and women, 45 years of age and older, will be able to provide personal care for the sick at home; assist patients in maintaining personal hygiene and the tasks of daily living; prepare meals, including special diets; provide companionship, with knowledge of the emotional problems which accompany physical illness and disability; keep records of the patient's progress; and serve as the patient's advocate, reporting changes needing attention by professional health or social service personnel.

Another important aspect of these projects is the development of career advancement opportunities for aides. Some will be trained as supervisors of aides in training, others as specialists in the care of persons with a particular disability or illness, some to work as part of the administrative staff of agencies. Still others will be helped to secure further training as licensed practical nurses and registered nurses.

The self-perpetuating cycle of poverty and ill health can be broken. OEO programs across the country are proving that health manpower is one of the key points of intervention. With intervention, better health can help the poor escape poverty.

DAVID A. MUSGRAVE

Hospitals Offer Unlimited Career Opportunity

The American health care industry—if it may be likened to an industry—is a world leader in medical advances, growth, and record of achievement, not only in reducing the average length of time a person is hospitalized for a given illness or accident, but also in sharply increasing his likelihood of return to useful existence as a well being capable of self support. Wonder drugs prescribed by specialists—men who spend a lifetime in personal and continuing education, others dedicated to research in the hopes of erasing some of mankind's dread diseases, and still others performing in the drama of superb surgery, replacing vital organs and mending crucial parts of the human body—are but part of the exciting and worthwhile future of this great industry.

The hospital, once considered a place of last resort, now a place of healing and hope, has become the center of education and discovery of new lifesaving techniques, where medical and scientific breakthroughs occur, and where the belief is daily demonstrated that people have a right to be well and their health protected throughout life.

This transition in image and philosophy has been given added impetus by our Federal Government which, following the creed of hospitals, has turned its tremendous resources toward the betterment of health care for all citizens. The impact of new Federal legislation is hard to imagine. There will be available money needed for building hundreds of new hospitals, for the medical care of our citizens, and—most importantly—for educating doctors and nurses and training the multitude of technicians and subspecialists required to staff this rapidly expanding industry.

By its very nature, this industry must have experienced and capable people highly trained to handle its very special product—the health of others. Medicare will mean a dramatic increase in jobs, interesting, respectable and worthwhile jobs of the kind that give a person pride in the work he is doing.

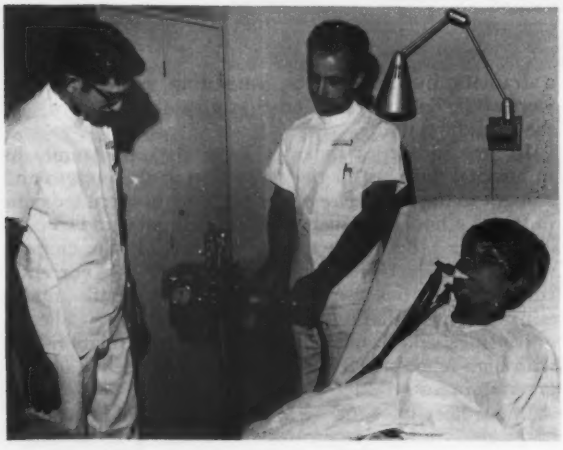
In few industries today is there the opportunity as in hospital business for people to start at the bottom and still get to the top. The major teaching hospital today is, in fact, a school for undergraduate, graduate, and specialist training. Because we can ill afford to take chances with our product—human life and health—we currently conduct numerous inservice educational programs, maintain student affiliation agreements with other colleges, universities, and hospitals, and even nurture relationships with high schools to obtain the manpower needed for our growing industry.

In our hospital—and we are quite typical of "teaching" hospitals—we have intern-resident training in all major specialties, a school of nursing, a school of X-ray technology, a school of medical technology for laboratory technicians, programs for surgical operating room technicians and medical secretaries, and even for operating engineers. The latest addition is special courses planned for inhalation therapists and practical nurses. All courses provide degrees or certificates for these critically needed specialists. The advancing technology and art of medicine require increased training at all levels to cope with the skyrocketing demand for qualified people. Because hospitals need capable management, we conduct management training programs, methods improvement training in industrial techniques, supervisory training, and hospital administration residencies.

Many prospective employees receive our inservice education, a program designed to orient experienced registered nurses, practical nurses, aides, and orderlies to our methods, or to train them in the latest techniques and bring them up to date in their professions. We have found these programs especially helpful to those out of the health care field for several years who are often fearful of not being able to measure up to today's greater demands for special knowledge and skills. These people

David A. Musgrave is Assistant Administrator, Washington Hospital Center, Washington, D.C.

In a classroom session, aides and orderlies are taught proper patient care procedures.



A registered inhalation therapist demonstrates to a trainee proper oxygen mixture and administration to a patient.

A refresher course nurse is shown a new medication dispensing technic.

need not look to less interesting or challenging work, for retraining courses are readily available to enable them to continue in their chosen profession.

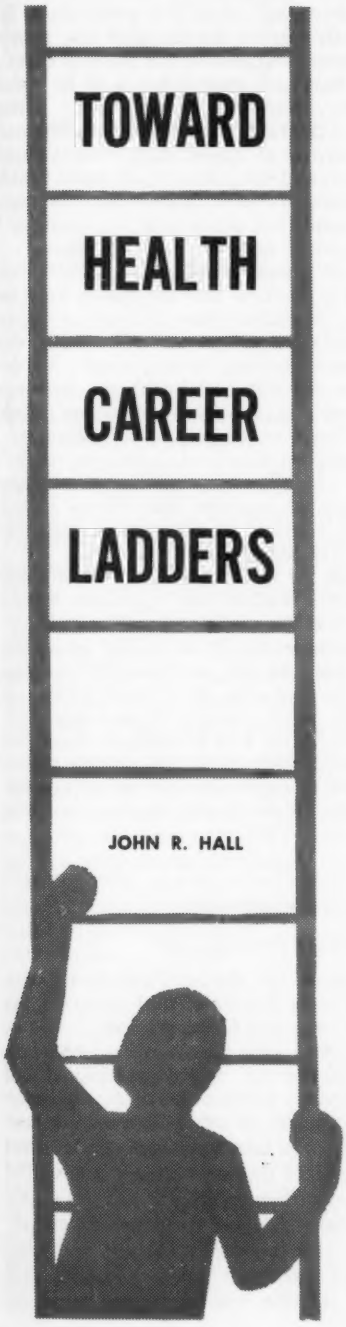
The list of career jobs in this complex hospital business can be matched by few other industries. Electronic data processing, accounting, social service, personnel counseling and guidance, engineering and plant maintenance, dietetics, rehabilitation, building and construction, planning and programing of service and facilities, financing, cooperative group liaison between hospitals and other related facilities, plus all functions found in the hotel business, add up to a vast array of interesting and needed occupations. Ours is ironically, perhaps, the only industry that does not need to look for business but can concentrate on seeking better ways to serve its expanding business.

The health care industry could be said to have had manpower problems; it can also be said that these past problems are turning into growing opportunities for many. Long dependent upon dedicated, loyal, and underpaid workers, the industry has finally faced up to its responsibility and is showing gratifying strides in enlightened management and progressive employee policies. Group life insurance, retirement plans, guaranteed health care for the employee and his family, financial assistance for further education, in-hospital training programs, and industrywide training programs sponsored by the American Hospital Association and specialty associations contribute to the employee's personal growth and income. These are very real fringe benefits.

Salaries have risen and are going much higher, because the industry recognizes that the qualified people it needs and trains must be paid wages commensurate with their ability, training, and experience.

There is need today for both the so-called unskilled and skilled workers in the health care industry. Few industries have gone so far in offering the "man on the street" an opportunity to work and learn, either while on the job or through assistance in further education, to find a worthwhile and satisfying career. Few industries offer the security of year-round employment, growth from within, and the assurance of growing need for

(*Continued on page 24*)



TOWARD HEALTH CAREER LADDERS

JOHN R. HALL

The meaning of "career ladder" comes through clearly to both employee and management. To the employee, a career ladder is a sequence of attractive opportunities, an upward route whereby he can rise from an entering position to that terminal rung where his personal needs and goal expectations will be satisfied. To the employee, a career ladder is also the means for making the most of his talents and drive. Therefore, in his youth when he is considering a life's work, he will seek an occupation that provides such a means. In his mature years, when he strives to exploit his experience, he should find the greatest rewards in continuing up the ladder of work he knows so well.

However, a career ladder must be provided by management before it can be used by employees. Therefore, it must serve the needs of management. To a hospital administrator legally responsible for patient care, a career ladder offers a promising device whereby he can recruit the bedside and supporting skills he needs. To him, looking down the length of the ladder, the rungs represent the myriad tasks that must be done. And a ladder as a whole suggests a mechanism of real value for preparing and assigning candidates to the tasks they can do best. Confronted by soaring demands for medical care, health management sees the career ladder as a promising way of satisfying these tasks by means of a stable hierarchy of experienced and dedicated workers.

The medical organization, into which the career ladder must be introduced, has long been noted for the glacial rigidity of its personnel structure. The hospital has been called a classic illustration of "blocked mobility." "With the exception of a few opportunities for movement within a job category, medical advancement depends upon technical training which can only be secured through formal schooling in a setting outside the organization itself. Although varieties of in-service training programs exist, individuals can seldom make a change of real magnitude through on-the-job education or superior performance in some parochial task: no nurse works up to surgeon; no orderly cultivates his talents in hope of becoming a hospital administrator. The relatively frozen contours of organization then create a severe problem of morale and motivation." [1] Obviously, to loosen these rigidities and

[1] *Robert N. Wilson, The Social Structure of a General Hospital,* Annals of the American Academy of Political and Social Science, March 1963.

John R. Hall is Chief, Utilization Section, Manpower Resources Program, Public Health Service, Department of Health, Education, and Welfare.

to improve morale and motivation, some rule changes are needed. Indeed, such changes are critical if the organization is to cope with the tide of patient demands.

Yet here is another matter for concern. In changing the rules to increase the quantity of care, it is important that such rule changes do not downgrade the quality of patient care. Margaret Mead has expressed the central concern in these words: "How can the high quality which has developed out of the one-to-one relationships between the highly trained physician, nurse, and responsible laboratory worker be changed into a new set of relationships which will care for the millions on the march demanding health as a right." [2]

Faced by these millions, hospital and other health service administrators must attempt to solve two major problems simultaneously: The need for more productive and reliable health systems, and the need for more equitable employee rewards and opportunities. The first solution calls for Miss Mead's new relationships cast in the form of a systems-oriented organization designed to achieve economies of scale, particularly economies of manpower. The second solution calls for an organization in which employee productivity will be enhanced throughout a sustained career by the use of modern technology whereby patients will receive better care and health workers will receive better salaries, improved fringe benefits, and acceptable working conditions. The career ladder should be a core concept in the design and operation of such an organization.

To move ahead with career ladders, all concerned must cooperate to bring them about. Public agencies, private management, and professional and other societies must join ranks to provide a beneficial community climate for their design and establishment. Community and institution management must undertake systems analysis, methods engineering, job evaluation, and other process studies in order to describe and classify and provide supervision for the jobs represented by the rungs of the ladders. They must provide procedures whereby employees, while working, can upgrade their academic credits and technical skills; they must also adopt official attitudes and control workloads so that employees will be encouraged and reassured in seizing upon such opportunities. As a result, the employee, while making his contribution on one ladder rung, will be preparing for a greater contribution at a higher one. Today, when there is a rapid skill obsolescence due to technological change, such preparation is both beneficial and essential.

To some in the world of medicine, these implications of the career ladder concept may seem unreal and inconceivable. But in the hard realities of today's job market, the alternatives seem absolutely ridiculous. It is inconceivable that, with other opportunities available, young people of ability will elect to enter the health field knowing that the entry-job leads nowhere. It is inconceivable that, while noting offers outside the industry, people with academic credits earned in pursuit of one medical occupational goal will accept the dictum that such credits cannot be used to satisfy the academic requirements of a higher goal. And it is particularly inconceivable that, while reading the classified ads, people with medical experience acquired in one job will quietly accept a judgment that such experience is of no value when trying to merit a transfer to another job. These rules are barriers to a desirable intramural mobility, and currently deny employees of opportunity, management of effective manpower, and the public of adequate health care. Such alternatives to career ladders are unacceptable. Today, it is simply not practicable to recruit and hold good people in large numbers in blind alleys.

If the present health system cannot provide itself with essential resources, it is manifest that the system must be changed. It is axiomatic that a system that cannot adjust itself to changing conditions will perish. The public demands more and better medical service, employees demand more adequate rewards, and health management demands more efficient and responsive operations. Such demands all come to focus on the need for adjustments in the way medical manpower is utilized during the rendering of health services. It follows that public, private, and institutional agencies must increase their efforts to adjust the present health system to one more compatible with the real world it is intended to serve.

Essentially, this calls for a real management emphasis on providing the career ladders that employees should and do demand. It calls for public and professional support for such improvements. It calls for providing broader educational bases so that workers, after employment, may advance further with their initial schooling. It calls for cooperation among employers and employees to afford opportunities for workers to upgrade themselves as they work. Through such steps, the present health system can be adjusted to cope with its new responsibilities. In this effort the Public Health Service intends to lead.

[2] Margaret Mead, Ph. D., curator of ethnology at the American Museum of Natural History in New York, at the 115th Annual Convention of the American Medical Association.

HOSPITALS OFFER OPPORTUNITY

(*Continued from page 22*)

their acquired skills more than the health industry, with its expanding fronts, new diagnostic and scientific advances, and increased demands for its services.

The industry itself has in the past borne a large part of the costly job of training the myriad professional and semiprofessional specialists, technicians, and allied personnel essential to its progress, its service to mankind, and its very survival. The time has come when the Federal Government has recognized that an industry so essential deserves support to perform even greater services to all. The impact of this added support spells heretofore unimagined opportunities for productive, lasting, and satisfying work, and a good living to the many already in this challenging industry and the many who are about to enter it.

ES Surveys of Health Manpower Requirements

LOUISIANA

SILAS D. GARVIN

Training for nurse aides and practical nurses has been accelerated in Louisiana as a direct result of the findings of a health occupations survey conducted by the Louisiana Division of Employment Security. The survey, financed by the Bureau of Employment Security and the Louisiana Department of Education, projected increasing needs in nursing homes and hospitals for workers in occupations that require limited training and no college degree.

To offset the pressing need, MDTA courses for nurse aides and hospital attendants are being offered in Louisiana through the State's vocational-technical schools. These courses are administered by the Division of Employment Security and the Department of Education.

On-the-job training courses offered through MDTA are in progress in Opelousas and New Orleans for almost 200 nurse aides. Plans are underway to begin MDTA institutional courses in 1967 throughout the State for nurse aides and ward attendants.

In addition, the vocational education division of the Louisiana Department of Education has established new courses in trade schools to train practical nurses.

The need for nurse aides and practical nurses was greatest in the State's nursing home industry. Nursing home employment in 1965 was 3,237; it will increase another 29 percent by 1967 and another 45 percent by 1970.

The survey determined that 90 percent of the workers in the nursing home industry were not required to have formal college training. Over 50 percent of the jobs required no education or experience; 22 percent required job experience; 20 percent needed formal training; and only 9 percent expected related occupational experience.

The hospital industry also showed an increasing need for workers who could be trained by MDTA courses and trade schools. Estimates indicate an additional 4,800 workers will be needed in Louisiana hospitals before 1970. Present employment exceeds 21,000, with the bulk of these workers in the 21 to 45 age group.

Paralleling the ES survey, research by the Louisiana Department of Hospitals predicted the number of beds in hospitals throughout the State would increase to 12,525 before 1970, an increase of 2,255 beds. A 27 percent rise in employees for the same period was predicted by the ES survey which included several large charity institutions not covered by the Department of Hospitals plan for medical facilities.

Feeding a patient is one of the regular duties of this trainee participating in an on-the-job training project at an Opelousas, La., nursing home.

The survey provided accurate data confirming the expected employment needs and defining the critical shortage occupations in the health fields. Now, using the ES survey as a starting point, Louisiana is on the way to solving these major employment shortages in the medical occupations.

Silas D. Garvin is Chief, Research and Statistics, Louisiana Division of Employment Security.

WISCONSIN

THOMAS RITTER

The symptoms of manpower problems in health occupations existed in the premedicare days of 1963. In the course of ARA and MDTA research activities, the Wisconsin State Employment Service found many individuals and organizations greatly concerned about future manpower requirements in the health occupation field. In mid-1963, the Wisconsin Hospital Association, the State Department of Nurses, the State Medical Society, the State Board of Vocational, Technical, and Adult Education, the University of Wisconsin Extension Division, and the Employment Service formed an advisory committee to explore manpower requirements in various subprofessional health and related service occupations.

As a result of this committee's deliberations and assistance, the ES undertook a statewide study of selected occupations in all health institutions. The survey, covering 10 selected occupations, was launched on December 30, 1963. The processing of returns began 6 weeks later, and the final report was published in May 1964.

The Diagnosis

The findings substantiated the preliminary diagnosis of the advisory committee and other interested parties. Total reported employment in the occupations covered was 14,227, with hospitals accounting for more than 75 percent. Three-fourths of the employees were engaged on a full-time basis. At the time of the study, current openings in the survey occupations numbered 492. Respondents also reported that by the end of 1964 they would need an additional 1,500 full-time employees in these occupations, and another 1,800 by the end of 1965. Anticipated 2-year growth rates were high for all occupations being studied. Growth rates for individual occupations ranged from 14 to 77 percent which was reported for a newly emerging occupation, occupational therapy assistant.

Total needs reported by respondents were felt to be conservative. While some employers considered turnover in preparing their estimates, others did not. In addition, future requirements did not include part-time employees and many employers not responding to the study could reasonably be expected to have additional needs of their own.

Other "ailments" made known or substantiated during the study included difficulties in attracting potential employees, limited training opportunities, high employee turnover, inadequate pay scales, unrealistic hiring requirements, and lack of publicity concerning employment and career opportunities. While some action was being taken to counteract these "ailments," it did not appear to be enough. Respondents reported training programs in operation for each of the occupations surveyed. However, the number of trainees in such programs equaled or exceeded current openings in only 2 of the 10 occupations surveyed. An overwhelming majority of the survey respondents indicated willingness to hire persons trained under the provisions of the ARA and MDTA, but only one surveyed occupation was included in training programs underway at that time.

Photo courtesy of Central Wisconsin Colony, Madison, Wis.
A nurse aide trainee is learning child care under the supervision of a registered nurse.

Thomas Ritter is Supervisor, Manpower Development, Research, and Reporting, Wisconsin State Employment Service.

The Prescription

Considering the widespread distribution planned for the study, we included a number of recommendations in our final report. To those planning a career, we encouraged a full investigation of the job opportunities in the health field. We further recommended that vocational counselors be made aware of and provide counselees with a realistic appraisal of the opportunities available. It was also suggested that stipends paid to nursing homes by governmental units be revised in order to permit the raising of employee wage scales. Employers were urged to reevaluate their hiring requirements in order to utilize more fully available manpower resources. Finally, it was recommended that training facilities in the industry be utilized fully and that training programs be expanded wherever possible.

Remedial Action

Although it cannot be directly attributed to our study, there has been increased activity in the health manpower field since 1964.

The recently issued HEALTH CAREERS GUIDEBOOK is an important step in the publicizing of health occupation opportunities. As for our own study, it has been used extensively as an informational and training handout.

The area in which we are most aware of increased activity is that of training. The quantity and occupational coverage of health occupation training has expanded enormously and includes fuller utilization of MDTA institutional and OJT programs. Numerous vocational schools throughout the State are offering training in a variety of health occupations, and further expansions are being planned. The University of Wisconsin Extension Division has been conducting a broad educational program involving hospitals, nursing homes, and vocational schools to upgrade instructional programs and management and personnel techniques.

Many employers in the health field have taken a closer look at their hiring requirements and have adjusted them to meet the manpower problems caused by current economic conditions.

CALIFORNIA

DONALD MAYALL

In January 1964, the California Department of Employment undertook a skill survey of the medical care industries in the San Francisco Bay area. The purpose was to identify job shortages and future training needs in a broad spectrum of occupations. This was a marked departure from the Department's usual method of collecting data on which to base training under the Manpower Development and Training Act. Prior to that time, training needs in each local office area had been identified by occupational analysts from available local office data or from a survey of selected employers. Shortcomings in this approach were that the analyst generally studied one occupation at a time, which meant repeated contacts with the same employer as related occupations were studied. Also, without the benefit of a probability sample, the efficiencies of sampling techniques could not be utilized, nor could the employer data be expanded to yield estimates of total demand in the area. For these reasons, it was decided to undertake a series of area skill surveys in bay area industries that provide significant job opportunities.

Donald Mayall is Coastal Area Labor Market Analyst, California Department of Employment.

The Bay Area a Medical Center

There were several reasons why the medical service industry was chosen for the first skill survey. It is an industry characterized by turnover and job shortages, with many of these in occupations in which MDTA training is feasible. In the San Francisco Bay area it is also a very sizable industry. Some 1,100 establishments offering medical service, ranging in size from the one-man laboratory to government hospitals with thousands of employees, are located in the nine counties surrounding the bay. The bay area medical complex includes such renowned schools and teaching hospitals as those of the University of California, the University of the Pacific, and Stanford University, as well as major facilities of the Veterans Administration, the State Department of Mental Hygiene, and a number of military hospitals.

Survey Goals Comprehensive

In this first area skill survey, an objective was to identify all occupations in the medical service industry in which training might be carried out under MDTA, and to develop estimates of the number of persons currently

working in these occupations, as well as forecasts of expansion and replacement needs in these occupations over the next 2 years. It was felt that by making a broad survey, a greater number of training possibilities might be identified and that small shortages existing in adjacent communities might be sufficient to justify a training course when pooled on an areawide basis. Also, it was thought that imbalances in supply and demand between central cities and outlying areas might be uncovered.

All government and private hospitals, sanitoriums and rest homes, and medical and dental laboratories were included in the medical care industries surveyed. Doctors and dentists offices were not covered, nor were clinics and other facilities which did not provide inpatient care. An employer sample of 295 firms was drawn from a population listing covering all establishments.

In order to develop a comprehensive list of trainable occupations, a subsample of 10 firms representing all major types of establishments was selected. Occupational analysts from the Department of Employment visited each of these firms and completed staffing schedules for each firm's entire payroll. Information from the subsample was then compared and combined and a list of 107 occupations in which MDTA training seemed possible was drawn up. These were listed, with brief job descriptions, on a questionnaire mailed to the 295 employers in the sample. For each occupation, the employer was asked to indicate the number of people currently employed in that category, the number expected to be needed 1 and 2 years hence, the number of replacements needed, salary, and the respondent's interest in hiring MDTA graduates.

Mailed with the questionnaire were a cover letter explaining the purpose of the survey, an instruction sheet, and a copy of the booklet, "An Explanation of the Manpower Development and Training Act." Ultimately 208, or 70 percent, of the sample of 295 firms responded.

Big Demand For Patient Care Workers

The questionnaire returns were compiled and estimates of employment by occupation, industry, and county were developed by expanding the survey data by factors based on the probability of selection in the sample. In the survey period, employment in industries covered was estimated at 57,700, of which 43,400 were in the 107 surveyed occupations. By far the largest occupational category was nursing and patient care—22,000. Over 5,000 job vacancies were anticipated annually in this category, with 80 percent of these for replacement. The next largest occupational category was clerical, which provided about 6,600 jobs. The remainder of the work force was distributed in laboratory, housekeeping, kitchen, and other service occupations.

A detailed report of the findings, entitled MEDICAL SERVICE JOB OPPORTUNITIES, SAN FRANCISCO BAY AREA 1964–1966, was issued. Prior to publication, survey findings were presented to the bay area MDTA advisory committee, to examine the implications for training programs. The data also was presented at a meeting of all local office Employment Service managers in the San Francisco Bay area.

Prior to this time, MDTA training in the medical field had been primarily in suburban communities where the bulk of the area's convalescent and rest homes are located. Low wages and lack of transportation to these areas meant that few of the long-term unemployed in the central cities could benefit from these training courses. The skill survey revealed a heretofore unidentified demand in the central cities in a wide range of medical occupations. Because the applicants most likely to benefit from training were often limited by their educational backgrounds, multioccupational projects with basic education were planned for the medical field. Since the end of this survey, nearly 80 training projects in a dozen different occupations ranging from orderly to medical secretary, and with some 2,000 enrollees, have been set up based on the survey results.

NORTH CAROLINA

DAVE GARRISON

Intensifying shortages of workers with specialized training for occupations in the medical and health field led the North Carolina Employment Security Commission in 1963 to undertake a comprehensive statewide study of current and projected manpower needs. Factual data in this field were urgently needed by the State Board of Education as a basis for expanding vocational education facilities and for planning curricula which would be consistent with the needs of the State's new and expanding hospitals and other health institutions.

A statewide approach in the investigation of manpower

Dave Garrison is a Research Analyst, North Carolina Employment Security Commission.

es newsletter

BES-UNIVERSITY CONSULTANTS MEETING

A meeting of university consultants to the Bureau of Employment Security was held at Michigan State University, East Lansing, on October 13-15, 1966. USES Director Frank H. Cassell was general chairman of the 3-day session. Twenty university consultants met with the BES officials to discuss the manpower situation and the steps being taken by the Employment Service to meet current problems. Areas covered in work sessions included the Human Resources Development Program; employer relations; changes in traditional ES activities; kinds of research needed to meet emerging manpower trends and problems; training ES personnel in developing employability of the hard-core unemployed; and ways to further community acceptance and support of the Employment Service.

A series of similar conferences is planned for this fiscal year to broaden BES relations with the university community and to secure their opinions and recommendations.

MANPOWER SERVICES ACT OF 1966

On October 4, Rep. Elmer J. Holland (Pa.), sponsor of the House bill (H. R. 13037) to amend the Wagner-Peyser Act, addressed the House of Representatives to present facts about this legislation and the similar Senate bill (S. 2974). Both bills are designed to strengthen and improve the public Employment Service system.

He expressed doubt that the legislation would be acted upon this year, but he concluded his 30-minute address with the following statement: "If this bill does not become law this year, I can promise . . . that it will be back on the agenda next year, and that the purposes that animated my efforts this year will remain unchanged. I will seek to improve the public Employment Service, to open up areas of cooperation between the private and public agencies and to retain, for jobseekers and businessmen alike, the broadest spectrum of manpower tools to which they can freely turn to meet their needs."

1966 MDTA AMENDMENTS

Of the 1966 Amendments to the Manpower Development and Training Act, Sections 202 (c) and 202 (l) are especially relevant to the operations of the Employment Service.

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Section 202 (c) provides for a special program of testing, counseling, selection, and referral of persons 45 years of age and over for vocational training or further schooling to help meet job problems they face because of age.

Section 202 (l) authorizes part-time training of persons, including those employed, in geographic areas experiencing critical skill shortages. Under this provision, the U.S. Employment Service would determine the types of workers eligible for part-time training and the occupations toward which this training should be directed.

EMPLOYMENT SECURITY LOCAL OFFICES

Over this past year, the number of full-time local employment security offices has increased. As of July 31, 1966, there were 2,189 full-time local offices. Of these, 195 were limited to Unemployment Insurance functions and 1,994 involved Employment Service operations. Of the latter group, 1,420 were concerned with both ES nonfarm and UI activities, together with farm or Youth Opportunity Center operations; 165 were ES nonfarm only; 90 were farm only; and 169 both ES nonfarm and farm. One hundred forty-one were YOC operations only; 7 were ES nonfarm and YOC's; and 2 were farm and YOC's. On January 31, 1966, there were 2,078 full-time local offices. The establishment of the YOC's account for most of the increase.

USES PUBLICATIONS

The Atomic Energy Commission has requested permission to reproduce the section of the Health Careers Guidebook, pages 108-112, on Radiological Health Specialists and Technicians. These specialists are concerned with the analysis, effects, and control of radiation hazards, and treatment required for radiation exposure. These sections of the Guidebook will be used to aid the Commission in its recruitment activities for these jobs in colleges and elsewhere.

The Superintendent of Documents, Government Printing Office, has sold nearly 5,000 copies of Occupations in the Field of Library Science since May and is ordering 2,000 more copies. Some 5,300 copies of Training and Reference Manual for Job Analysis have been sold since September 1965. The publication is a specialized tool for job analysis, job re-engineering, personnel management, and other manpower planning activities.

A new guidebook on Occupations in the Care and Rehabilitation of the Mentally Retarded has recently been published. It can be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at 35 cents per copy.

XUM

A class at the Gaston Memorial Hospital School of Nursing in Gastonia, N.C.

needs was desirable because steps were already underway to expand the network of industrial education centers, technical institutes, and community colleges. These 43 schools provide well equipped, modern classrooms and laboratory facilities, and offer well planned curricula in technical and skilled fields of vocational training—primarily at the post high school level.

Other agencies which were vitally interested in the study included the State Department of Welfare and Health, the North Carolina Hospital Association, and the State Nurses' Association. These agencies were consulted at the planning and development stage of the study, as was the USES, which provided funds for the project.

The survey covered 417 medical and health service establishments—approximately five-sixths of the State's total. Specially trained staff from the Employment Security Commission personally contacted 342 establishments—all hospitals in the State, 4 large college infirmaries, 2 medical schools, 1 school of public health nursing, 1 school of dentistry, all State and local health departments, all clinics, medical and dental laboratories covered under the State unemployment insurance law, all nursing and rest homes having 25 or more beds, and one-third sample of nursing homes having 7 to 24 beds.

Information was obtained regarding current job vacancies and replacement and expansion needs by the end of 1963 and 1966, and trainee output by the end of 1963 and 1966 as a result of on-the-job training in the institutions and affiliated schools. Data were obtained for 43 selected key occupations which were generally known to be in short supply.

The survey, completed in September 1963, indicated that statewide employment in medical and health services was expected to advance from 39,650 at survey time to 42,850 by the end of 1963 and to more than 49,500 by the end of 1966. Whereas total employment in the industry was expected to increase about 25 percent between 1963 and 1966, an even greater growth rate—nearly 30 percent—was predicted for the 43 surveyed occupations. The survey showed that if expansion and replacement needs of the institutions were to be met in the 43 occupations studied, 3,950 additional workers would need to be trained by the end of 1963, and 11,500 before the end of 1966.

The study further showed that, despite considerable training already underway in many of the surveyed occupations, only about 54 percent of total expected demand would be met by the end of 1963, and about 73 percent by the end of 1966.

Surprisingly, 95 percent of the net training requirements for workers needed by the end of 1966 was found to be concentrated in only 11 of the 43 occupations studied. Most stringent shortages numerically were foreseen for nurse aides, orderly-attendants, practical nurses, medical secretaries and stenographers, ward clerks, cooks, medical laboratory technicians, registered graduate nurses, surgical technicians, medical technologists, and assistant housekeepers. Shortages by 1966 were also predicted in nearly all of the other surveyed occupations including such key jobs as medical record technicians, dental laboratory technicians, physical therapy technicians, food service and diet workers, hospital equipment servicemen, laboratory assistants and helpers.

The results of the study have been used by the State Department of Education in planning training programs

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throughout the State. In addition to the regular State-operated training programs, almost 1,700 workers have been trained for North Carolina's hospitals and medical-care institutions under the MDTA. The survey information has also been helpful to employment security counselors and high school, college, and vocational counselors in working with young people interested in health-related careers. Hospital administrators and other officials have used the information as a basis for evaluating and stepping up their own on-the-job training programs.

The information has proved to be of such value that a similar study probably will be made in 1967.

SOUTH CAROLINA

PINCKNEY K. HOLMES

In 2 years South Carolina will have a shortage of more than 6,000 workers in health service occupations unless immediate steps are taken to meet the need, according to an Employment Service survey, "Manpower Requirements in Health Facilities in South Carolina."

When he received this disturbing information, the Governor announced that an 11-member Health Manpower Council, drawn from the medical, dental, and nursing professions, the educational field, hospital administration, and the public at large would be appointed to insure a coordinated effort in alleviating the critical shortage of workers in the health field.

The study revealed that the most serious shortage will be in the nursing occupations; registered nurse and nurse aide will be short by more than 1,000; practical nurse, psychiatric aide, and orderly by 500 to 1,000; and ward clerks by 300 to 500. There will also be shortages in the occupations of anesthetist, medical technologist, X-ray technician, surgical technician, diet clerk, medical record clerk, medical supply clerk. Shortages were detailed also in clerical, food service, and housekeeping occupations.

Gov. Robert E. McNair, center, discusses a survey on the shortage of workers in medical occupations with study committee chairman James M. Daniel, Columbia Hospital superintendent, and Mrs. Pinckney K. Holmes, senior labor market analyst, South Carolina Employment Security Commission.

In addition to proclaiming the need for forming a Health Manpower Council, the Advisory Committee for the study recommended that:

- A concerted effort be made to provide training at all levels to correspond with health occupational labor requirements and efforts to provide literacy and general work habits training.
- Appropriate information be developed and disseminated throughout the State to make the citizens aware of the continuing manpower needs for health care.
- More information on occupations in health services be made available for guidance and counseling of job-seekers of all ages.
- Employers in health services constantly evaluate their manpower needs for recruitment and training purposes and plan programs both to retain workers in health services and to bring back into the field workers previously trained in health services but now in other pursuits.

Efforts to provide training in health occupations were intensified while the survey findings were still in the draft stage. The State Manpower Training Plan directed nearly 40 percent of the funds available to South Carolina under the Manpower Development and Training Act to training in health occupations. Refresher courses in hospitals for nurses are designed to bring back some of the State's 1,700 registered but not practicing nurses to their professional status. Courses are programed for

(*Continued on page 71*)

Mrs. Pinckney K. Holmes is Senior Labor Market Analyst, Research and Statistics Section, South Carolina Employment Security Commission.

Health Career Councils and the Employment Service

PHILIP W. MORGAN

State and metropolitan Health Career Councils can provide the U.S. Employment Service and affiliated State Employment Services with up-to-date, accurate information about rapidly expanding health occupations.

Continued shortages of trained health workers brought about by rapid advances in medical science and technology and an aroused public interest in health services necessitate a coordinated approach to health manpower problems.

Health Career Councils offer a coordinated approach, and while objectives vary somewhat from council to council, the following are sufficiently broad to show the scope of existing programs. A sample set of objectives might include:

A. Acting as a clearinghouse for information, films, and literature on health careers so that the abundance of such materials can be put to work in an orderly and effective fashion.

B. Developing channels between the utilizers of health personnel and those concerned with recruiting, with the aim of more accurately pinpointing areas of specific and legitimate need.

C. Establishing a formal cooperative liaison with the total educational system, including public, independent, and parochial schools, 2- and 4-year colleges, and others.

D. Studying existing recruitment programs in order to (1) determine the extent of coverage and effectiveness; (2) project the direction toward which new programs are needed; and (3) make available mutual experience.

E. Compiling, evaluating, and disseminating information on existing scholarships, fellowships, and other financial aid pertinent to health careers and to encourage the creation of additional sources of aid as needed.

F. Stimulating the collection of information and existing statistics that reflect the true nature of the overall needed; and (3) make available mutual experience.

As the Employment Service has broad responsibilities and interests in conserving, developing, and utilizing the Nation's manpower, so do the Health Career Councils in the area of health manpower. Some examples of programs run by Health Career Councils will illustrate how the two groups can benefit from each other.

In New York City this summer, the United Hospital Fund's health careers project ran a 12-day Institute on Health Careers. Participants included occupational analysts from the New York State Employment Service and guidance counselors from the city's public and parochial schools. The primary purpose of the institute was to increase the counselors' knowledge of the vast opportunities existing within the health field so that more people will ultimately be made aware of potential health careers.

Similar institutes could be set up throughout the country aimed specifically at those who train personnel of the Employment Service. Such an audience would help to insure proper dissemination of the acquired information to Employment Service counselors who, in turn, would pass it along to the people with whom they are working. A comprehensive program of this type also eliminates contacting individually the more than 200 different professional health organizations for information on their particular disciplines. If programs of long duration are not possible, short-term or periodic programs could be set up.

Health Career Council also may have easier access

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HEALTH CAREERS

UNITED HOSPITAL FUND OF NEW YORK

AUDIOLOGIST AND SPEECH PATHOLOGIST	HIGH SCHOOL PLUS SIX YEARS of additional training prepares you to help children and adults handicapped with such problems as stuttering, lisping, cleft palates, and impaired hearing, to communicate in as nearly a normal fashion as possible.
CERTIFIED LABORATORY ASSISTANT	HIGH SCHOOL PLUS ONE YEAR of additional training prepares you to perform routine laboratory procedures such as collecting blood specimens, grouping and typing blood, preparing and staining slides and administering electrocardiograms and basal metabolism tests.
CYTOTECHNOLOGIST	HIGH SCHOOL PLUS TWO YEARS of additional training prepares you to stain, mount, and screen microscopic slides in the search for abnormalities that are the warning signs of cancer.
DENTAL HYGIENIST	HIGH SCHOOL PLUS THREE YEARS of additional training prepares you to provide dental health education including the techniques of mouth care and proper diet, to chart conditions of decay and disease for diagnosis by the dentist and clean teeth.
DENTAL LABORATORY TECHNICIAN	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to make dentures including teeth, crowns, bridges, and orthodontal appliances.
DENTAL ASSISTANT	HIGH SCHOOL PLUS ONE YEAR of additional training prepares you to serve as a dentist's receptionist and secretary, prepare dental patients for examination, treatment or surgery, sterilize instruments, and in some offices prepare solutions, mix fillings and cement, and assist with X-rays.
DENTIST	HIGH SCHOOL PLUS A MINIMUM OF SIX YEARS additional training prepares you to diagnose and treat diseases, injuries and malformations of teeth and gums; clean, fill, extract and replace teeth.
DIETITIAN	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to plan and direct food service programs in hospitals, schools and restaurants; direct workers engaged in preparation and serving of meals and to purchase food, equipment and supplies.
EEG & EKG TECHNICIAN	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to administer electroencephalographs (EEG) and electrocardiographs (EKG). The EKG machine is used to help diagnose heart disease while the EEG machine records brain waves.
HEALTH EDUCATOR	HIGH SCHOOL PLUS A MINIMUM OF FOUR YEARS OF COLLEGE prepares you to translate scientific advances into everyday usable form and to help people assume individual responsibility for maintaining their health as well as for improving it.
HOME ECONOMIST	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to develop, interpret, and apply principles of homemaking to promote health and welfare of individuals and families; to advise homemakers in selection and utilization of household equipment, food and clothing through educational programs, demonstrations, discussions and home visits.
HOSPITAL ADMINISTRATOR	HIGH SCHOOL PLUS SIX YEARS OF COLLEGE prepares you for administering activities of a hospital including finances, personnel, public relations, housekeeping and the coordination of these activities with all medical services; to work with the board of directors in the development of plans and policies.
HOUSEKEEPER	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to supervise work activities of cleaning personnel to insure clean, orderly, attractive rooms.
INHALATION THERAPIST	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to set up and operate various types of oxygen equipment such as iron lungs, oxygen tents, resuscitators and incubators to administer oxygen and other gases to patients.
MEDICAL ILLUSTRATOR	HIGH SCHOOL PLUS TWO YEARS of additional training prepares you to make models and sketches illustrating medical findings for use in publications, exhibits, consultations, research and teaching activities.
MEDICAL LIBRARIAN	HIGH SCHOOL PLUS SIX YEARS of additional training prepares you to work in a medical library and be responsible for such work as ordering, cataloguing, and administering reference, bibliography, historical and rare book collections relating to medicine.
MEDICAL RECORD LIBRARIAN	HIGH SCHOOL PLUS THREE YEARS of additional training prepares you to plan, develop, maintain and analyze records and reports on patients illnesses and treatments.
MEDICAL SECRETARY	HIGH SCHOOL PLUS COURSES OF NINE MONTHS (approximately) teaches you to prepare medical charts and reports for doctors or hospital personnel utilizing knowledge of medical terminology. You may also prepare and send bills to patients and serve as a receptionist.
MEDICAL TECHNOLOGIST	HIGH SCHOOL PLUS FOUR YEARS of additional training prepares you to perform chemical, microscopic, bacteriologic and other medical tests to aid physicians in detecting, diagnosing and treating of diseases.
NURSE AIDE AND ORDERLY	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to assist nurses by answering patients' calls, helping with meals and bathing patients, adjusting beds, straightening rooms and carry out other tasks important to the patients' comfort.
NURSE, REGISTERED PROFESSIONAL	HIGH SCHOOL PLUS TWO TO FOUR YEARS TRAINING prepares you to administer medications and treatments prescribed by physicians; observe, evaluate, record symptoms, reactions and progress of patients; assist in patient education and rehabilitation; improve the physical and emotional environment of patients.
NURSE, LICENSED PRACTICAL	HIGH SCHOOL PLUS ONE YEAR of additional training prepares you to assist in the care and treatment of the physically and mentally ill by performing the less complex nursing tasks. Under the direction of a physician or nurse, licensed practical nurses may give medication and injections, prepare food, sterilize equipment and take and record temperature, pulse and respiration rate.
NUTRITIONIST	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to organize, plan and conduct programs concerning nutrition to assist in promotion of health and control of disease. You may also interpret and evaluate food and nutrient information.
OCCUPATIONAL THERAPIST	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to select and direct education, vocational and recreational activities designed to meet the specific rehabilitation needs of mentally or physically disabled patients.
OPTICIAN, DISPENSING	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares you to grind eyeglass lenses to prescription specifications and assemble lenses in frames. You also assist customers in choice of frames and fit frames to customer.
OPTOMETRIST	HIGH SCHOOL PLUS FIVE YEARS OF COLLEGE AND OPTOMETRY SCHOOL prepares you to measure defects in vision and when needed, prescribe eyeglasses, contact lenses and eye exercises or other treatment that does not require drugs or surgery.
OSTEOPATHIC PHYSICIAN	HIGH SCHOOL PLUS SEVEN YEARS OF COLLEGE AND OSTEOPATHY SCHOOL prepares you to diagnose, prescribe for and treat diseases of human body relying upon medical, surgical and manipulative therapy.
ORTHOPTIST	HIGH SCHOOL PLUS TWO YEARS of additional training prepares you to help patients develop visual skills in eye-hand coordination, near-visual discrimination, and depth perception using developmental glasses. You may also teach persons with correctable focusing defects to develop and use both eyes correctly.
PHARMACIST	HIGH SCHOOL PLUS FIVE YEARS OF COLLEGE AND PHARMACY SCHOOL prepares you to weigh, measure and mix drugs and other medicinal compounds and fill bottles or capsules with correct quantity and composition of preparations prescribed by physicians or dentists.
PHYSICAL THERAPIST	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to treat patients with disabilities, disorders, and injuries to relieve pain, develop or restore function, and maintain maximum performance using physical means such as exercise, massage, heat, water, light and electricity as prescribed by a physician.
PHYSICIAN	HIGH SCHOOL PLUS EIGHT YEARS OF COLLEGE AND MEDICAL SCHOOL prepares you to diagnose diseases and treat people who are ill or in poor health. Physicians are also concerned with the prevention of disease and with the rehabilitation of people who are ill or injured.
PODIATRIST	HIGH SCHOOL PLUS SIX YEARS OF COLLEGE AND PODIATRY SCHOOL prepares you to diagnose and treat diseases and deformities of the feet, to perform foot surgery, use drugs and physical therapy, prescribe proper shoes and fit corrective devices.
PROSTHETIST AND ORTHOTIST	HIGH SCHOOL PLUS ON-THE-JOB-TRAINING prepares the prosthetist to make and fit artificial limbs, and the orthotist to make and fit orthopedic braces to support weakened body parts or to correct physical defects such as spinal malformations.
REHABILITATION THERAPIST	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to engage in restoring physical, emotional, social and economic effectiveness of medical patients and other disabled persons.
SANITARIAN	HIGH SCHOOL PLUS FOUR YEARS OF COLLEGE prepares you to determine and set health and sanitation standards, enforce regulations concerned with food processing and serving, collection and disposal of solid waste, and advise civic and other officials in development of health laws and regulations.
SOCIAL WORKER, MEDICAL	HIGH SCHOOL PLUS SIX YEARS of additional training prepares you to work directly with patients and their families helping them meet problems accompanying illness, recovery and rehabilitation.
VETERINARIAN	HIGH SCHOOL PLUS SIX YEARS of additional training prepares you to treat sick and injured animals, and give advice regarding the care and breeding of animals, and help prevent the outbreak and spread of diseases among them.
X-RAY TECHNICIAN	HIGH SCHOOL PLUS TWO YEARS of additional training prepares you to operate X-ray equipment used by physicians to diagnose ailments of the internal parts of the body.

SEE YOUR GUIDANCE COUNSELOR FOR MORE INFORMATION ON HEALTH CAREERS

to hospitals and other health facilities than the Employment Services because of their day-to-day associations. Such access would enable them more easily to obtain job market and training or retraining information. An up-to-date list of all health training courses offered by health and educational facilities will assist employment counselors in referrals to training programs. The local Employment Service office can help the Health Career Council in the preparation of a comprehensive list by providing complete information on all Manpower Development and Training courses offered within the area of its jurisdiction.

Some Health Career Councils are in a position to suggest that job analysis and utilization studies be undertaken by health facilities as a first step toward adequate staffing. Such studies, if undertaken, will help the Employment Service in making meaningful placements.

Another project of some councils is the setting up of health education centers. Where these are in operation, a cooperative program between the Council and the Employment Service could insure instituting MDTA and other government training programs.

More basic than some of the ideas listed above, are the public information programs of these Health Career Councils. When we began our project in New York City, we were told by everyone we contacted that there was an immediate need for a single information piece to show the range of opportunities available within the health field. As a result we prepared the chart shown on page 34, for distribution to high schools, colleges, and Employment Service offices. Indications are that in each facility where a chart was placed, there have been increased inquiries about opportunities in the health professions listed. When the chart is posted, counselors must be prepared to answer questions. The Council should provide information which enables the counselors to give accurate answers.

The establishment of Health Career Councils throughout the country has been fairly recent. While many of these programs developed out of local needs, many others have come about through the efforts of the National Health Council, the first national group to organize a cooperative program. Currently there are 28 local and State programs, with the prospect of many more in the near future. (A complete list of State and metropolitan Health Councils is available from the National Health Council, 1790 Broadway, New York, 10019.)

Increasing emphasis is being placed on health manpower in many quarters. Recently passed legislative measures dealing with health manpower now number more than 70. The report of the National Commission on Community Health Services includes a separate Task Force Report on Health Manpower, and the reorganization of the U.S. Public Health Service calls for a Manpower Division.

With all of this emphasis, it is imperative that the U.S. Employment Service and the affiliated State services utilize all available resources to become fully informed of the opportunities in the health field. No better resource exists than the State or metropolitan Health Career Councils in the area.

Solving the VA Health Manpower Shortage

Operating a defibrilator.

Operating a colflator.

A specialized technician is required to perform cobalt therapy.

The Veterans Administration is vigorously engaged in activities to alleviate its health manpower shortages. Concentrated attention on recruitment is not the answer. Since the supply of health manpower is limited, recruitment alone tends only to "rob Peter to help Paul." We have a responsibility, as do all employers of health manpower, to conserve human resources, to help provide education and training in the health occupations, and to assure the full utilization of the skills and talents of our employed manpower.

Many Veterans Administration hospitals throughout the country conduct "career days" for high school students and college undergraduates to give information about health careers and to encourage a course of education or training in one of the health occupations. Opportunities in the health field, with the exception of the usually well-known professions of doctors of medicine and dentistry and nurses, generally are not known to high school students, and to many of the college undergraduates.

High school graduates and college undergraduates need to be provided with more information about the health supportive career opportunities in hospital administration, medical management, hospital housekeeping, medical supply services, medical records libraries, medical illustration and photography, engineering, medical electronics, as well as medical secretarial and clerical work.

Able people dedicated to the medical professions have an obligation to encourage young people to enter the health service fields, and to inform them of the opportunities as well as the education and training required. Young people also need to be informed as to the availability and location of approved educational and training institutions and facilities.

The Veterans Administration uses its extensive physical and human resources to further medical and technological education and training. The VA is affiliated with all but 9 of the 88 medical schools in the United

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H. M. ENGLE, M.D.

States. Annually, some 4,000 to 5,000 medical residents receive training in Veterans Administration hospitals, as do more than 170 medical interns and about 8,800 medical school students.

The Veterans Administration shares in the training of more than 4,000 nursing students through 144 schools of nursing.

Of the Nation's total social work students in clinical settings, 23 percent annually perform their field work in Veterans Administration hospitals and clinics.

Affiliated training is also provided for graduate students in psychology, dietetics, physical therapy, and a variety of other therapies, and technological and administrative support health occupations.

Altogether, more than 20,000 residents, interns, and students in the numerous health programs receive training each year in the Veterans Administration through its affiliations with colleges and universities.

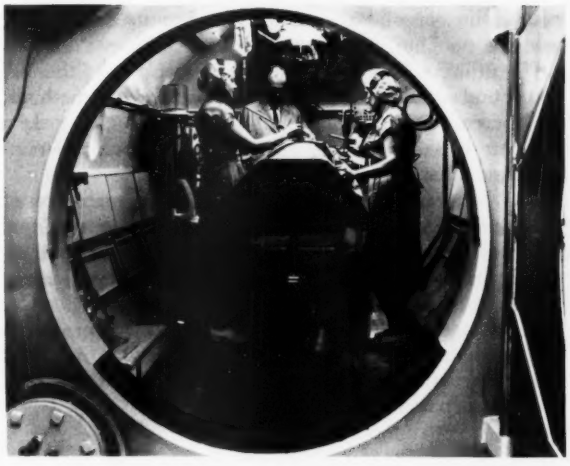
In 1965, more than 4,500 educational opportunities were provided VA employees to improve their medical care skills at Federal expense. About 3,600 employees were detailed to other Veterans Administration hospitals for education and training in specialized techniques which were perfected by these hospitals. In addition, some 430 employees were assigned to observe what is being done in other Federal agencies. Educational television was introduced in about 25 hospitals.

Last year, a number of cooperative agreements were negotiated with vocational schools to train health workers in nonprofessional nursing. Courses of instruction were also provided under the Economic Opportunity Act and the vocational-educational work study programs. Two training schools for laboratory assistants were established within the Veterans Administration.

Last year, the Veterans Administration conducted 51 conferences to inform some 3,500 of its professional personnel of advances in the field of medicine. Also, more than 2,000 educational lectures were given to medical staffs of the Veterans Administration by eminent medical authorities.

In addition to these educational pursuits, efforts to improve and conserve health manpower included the consolidation of a number of outpatient clinics with hos-

Supra voltage X-ray treatment for cancer.



Specialized personnel assisting a doctor caring for a patient in hyperbaric chamber.

Circoelectric bed.

Receiving ward supplies via an automatic distribution system.

pitals, the consolidation of certain hospitals' activities, and the pooling of scarce medical specialties.

To utilize efficiently its employed manpower, the VA has found ways, and is continuing to search out methods, for increasing the effective man-hours of those workers who are in short supply by freeing professionals of nonprofessional and routine duties.

The Veterans Administration developed greater use of professional and paramedical staffs by using qualified substitute personnel to perform the less complex and administrative duties formerly done by professional staffs. These are some of the accomplishments:

- Increasing use of psychologists, social workers, physical medicine and rehabilitation therapists, nurses, and volunteers to assist pyschiatrists in providing therapy to psychiatric patients.

Administering to a heart surgery patient in the recovery room.

- Employed optometrists to relieve ophthalmologists of certain routine duties.
- Reduced the time of staff physicians by use of orthopedic and prosthetic clinic teams and prosthetic technicians to provide certain nonprofessional services to patients.
- Hired dental hygienists and dental assistants to enable dentists to devote additional man-hours to more complex professional duties.
- Developed the position of social work assistant to relieve professional social workers of semiprofessional duties.
- Used physical science aides (college graduates in science) to relieve professional scientists of a variety of technical tasks.
- Established pharmacy assistant positions to perform the less complex tasks of pharmacology.
- Shifted a certain amount of food service supervision from dietitians to supervisory cooks and food service workers.
- Expanded the employment of practical nurses from less than 300 in 1955 to 3,200 in 1966 to provide assistance to professional nurses.
- Increased use of nonprofessional nursing personnel in units such as operating rooms, intensive care, and recovery rooms.
- Spread housekeeping responsibilities to free nurses and other professional employees of housekeeping tasks.
- Used volunteers to assist professional and paramedical manpower by having them perform various services in hospitals, outpatient clinics, domiciliaries, restoration centers, and nursing homes. (A monthly average of 108,000 volunteers provided more than 8 million hours of service annually.)

A study was made of the potential man-hour savings of new medical equipment, inventions, and other newly marketed materials. Installation of labor saving machines, disposable supplies, and automated devices conserved thousands of man-hours.

Special studies to increase efficiency resulted in the simplification of numerous procedures and techniques, as well as the elimination of unnecessary or duplicative procedures. Man-hours were also saved by more efficiently and equitably scheduling and redistributing daily and weekly workloads. In addition, fuller utilization of labor saving innovations produced extra productive man-hours. Improved efficiency was also achieved through more effective space utilization, and by improving work flow systems.

Other innovations which helped to conserve the use of health manpower included:

- Expanding the nursing home care program to increase available treatment facilities and further improve the utilization of professional manpower.
- Establishing intensive care units which not only achieved better utilization of the professional manpower but also permitted fuller services to patients needing concentrated attention.
- Setting up self-care nursing units at some hospitals for selected patients, thus freeing specialized health manpower for other professional duties.

- Supplementing such shortage category personnel as physical therapists and occupational therapists with related specialists, such as corrective therapists, manual arts therapists, and recreation therapists.
- Adopting a more flexible hiring policy on age limits for the appointment of physicians, dentists, and nurses.
- Adopting appointment controls to effect a more equitable distribution of certain professional personnel among the hospitals in the nationwide system of the Veterans Administration.
- Making more extensive use of professional contractual services where full-time professional services are not required, or where such personnel are in short supply.

In these crucial times, the Veterans Administration is making every effort to attract and retain the best qualified individuals. Perhaps one of the greater inducements for retaining professional personnel is relieving them of as much nonprofessional work as possible, thereby providing greater job satisfaction. Highly educated, trained, and specialized workers seek out opportunities which permit them to perform at their highest skills and talents.

Then, too, the agency is searching out employees whose skills and talents are not being used fully, as well as those who possess second skills and talents. It is a waste of manpower and talents when work is organized so rigidly that it discourages the use of skills which may be in shorter supply than those for which individuals were initially employed.

The Veterans Administration has found reserve pools of manpower resources which it has tapped successfully, and which it is continuing to explore for qualified personnel. Among these are (1) members of minority groups, (2) women, (3) military personnel returning to civilian life, (4) inactive health personnel (those voluntarily removed from health occupations), (5) volunteers, (6) technologically displaced workers with obsolescent skills who can be retrained, (7) physically handicapped workers, and (8) retired and older workers. Members of the Peace Corps who have completed their service have proved to be another valuable source.

The Veterans Administration is continuing its efforts to improve its use of health manpower, to share with others the obligation of training and educating health manpower, and also vigorously to encourage young people to prepare themselves for careers in health occupations.

Though there may be other areas to effect improvements, the Veterans Administration proceeds with caution, as do all who are engaged in professional pursuits. In the practice of medicine, there is no room for compromising high standards of quality by adopting new ideas merely because they conserve resources or would serve some other expediency. Thus, in adopting health manpower conservation methods and other innovations, the Veterans Administration is guided by its present high standards of professional medical service.

The years ahead must surely bring an expansion in our Nation's medical educational and training systems, and the full utilization of all available facilities. The task before the Nation's health facilities is to train a health manpower force in all of the specialties and occupational areas that will be needed in the future and at the same time to maintain high standards of quality. Each passing year must see increasing numbers of young people entering the health occupations. Too, rapid advances in medical science necessitate provisions for those in the health professions to continue their learning to keep abreast of progressive developments.

NYC Enrollees in Health Jobs

The Economic Opportunity Act of 1964 provides for work training of disadvantaged youth ages 16–21 through the Neighborhood Youth Corps. In attempting to provide work experience and increase the employability of these youth, an important and basic byproduct of the NYC program has been the alleviation, wherever possible, of local manpower shortages.

NYC enrollees are an excellent source of workers for the health and medical service field.

Through the end of fiscal year 1966, an estimated 20,000 enrollees in the NYC program were employed in job opportunities in the health services industry. These enrollment opportunities were located in both public and private nonprofit hospitals as well as health departments, clinics, and other medical installations.

Prominent among these job opportunities were occupations basic to effective medical and health activities. They included war attendants, orderlies, nurse aides, X-ray technician aides, and dental technician aides. Also, NYC enrollees are working as clerical aides in the various health installations, thereby lessening much of the burden of paperwork on trained nurses. Moreover, the NYC youths are working as maintenance aides and are successfully relieving more skilled blue-collar or technical personnel of the more routine, time-consuming tasks.

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A Source of the Manpower Problems . . .

Working Conditions in Health Institutions

MARVIN FRIEDMAN

*Supply and training are simply one aspect of a general (health) manpower problem. If you move on the supply and training side only, you will have a bag with a hole in it—you keep putting water in the top of it and it keeps coming out the bottom. Wages and working conditions . . . become an absolutely essential part of a general attack on this problem.**

Low wages and poor working conditions complicate our health manpower problems, for, no matter how unique their services, hospitals and nursing homes must still compete for much of their manpower. At the professional level—where the individual has made an investment in time and money to acquire skill—they must compete within their own industry. Where lesser skills are involved, they must compete with other industries as well, for at these levels, much of the work force is interchangeable among industries.

That they have not been competing successfully is incontestable. Administrators of health institutions regularly complain about manpower shortages and a high rate of labor turnover. Now, with increased demands being placed upon health facilities, these problems threaten to become more acute—unless the jobs are made more attractive. For a great majority of workers in the industry, this means a substantial improvement in wages and other conditions of work.

Under the conditions that prevail, it is illogical for the health industry to expect to attract enough workers to meet its needs. And it is equally illogical to expect that those who have been attracted will not constantly be looking elsewhere—both inside and outside the industry—for better opportunities.

As matters stand now the employees are, in effect, being asked to subsidize industry. No doubt, there are exceptions to this generalization, especially among some of the professional and technical occupations. But even here, there is obvious discontent, as evidenced by the ferment among nurses.

The source of much of this discontent, among nurses and among the vast numbers of unskilled and semiskilled workers in the industry—and the reason for the manpower problems—have been made obvious by several surveys conducted by the U.S. Bureau of Labor Statistics.** Although they are not as current as we might like, they do nevertheless clearly establish that wages in both hospitals and nursing homes are low not only in comparison with other industries, but also, in our opinion, low by any reasonable standards.

*Dr. Eli Ginzberg in his address to the Health Manpower Conference, sponsored by the Departments of Labor and Health, Education, and Welfare, February 14–17, 1966.

**(1) Industry Wage Survey, Hospitals, Mid-1963: Bulletin No. 1409. Note: This survey covered all hospitals except those operated by the Federal Government. (2) Industry Wage Survey, Nursing Homes and Related Facilities, April 1965: Bulletin No. 1492. Note: This survey did not cover institutions operated by Federal, State, or local governments.

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Average Earnings for Selected Occupations in Hospitals and in all Industries

Occupation	Hospitals [1] mid-1963	All industries [2] 1962–63
Registered nurses.....per week..	$86. 50	$102. 50
Stenographers [3].....do....	77. 50	89. 00
Switchboard operators.....do....	63. 00	73. 00
Janitorial [4].....per hour.	1. 30	1. 87

[1] Source: Industry Wage Survey, Hospitals, Mid-1963: Bulletin No. 1409: U.S. Bureau of Labor Statistics.
[2] Source: Wages and Related Benefits, 82 Labor Markets, 1962–63: Bulletin 1345–83: U.S. Bureau of Labor Statistics.
[3] For hospitals: technical stenographers; for all industries: senior stenographers.
[4] For hospitals: maids and porters; for all industries: janitors, porters and cleaners.

The averages alone, as the accompanying table indicates, tell a story about the lag in hospital wages, but not the whole story. They hide the facts that in hospitals in mid-1963:

- Over 25 percent of the registered nurses were earning less than $80 per week.
- Nearly 30 percent of the hospital clerical staff were earning less than $60 per week.
- About 32 percent of the nursing aides and practical nurses were earning under $50 per week.
- Some 40 percent of the service workers—laundry and kitchen help and janitorial workers—were earning less than $1.20 per hour or, on a 40-hour week, less than $48 per week.

The survey of nursing homes painted an even more dismal picture. In nursing homes in April 1965:

- Registered nurses were *averaging* just over $90 per week.
- Nursing aides were *averaging* $1.08 per hour.
- Maids and porters were *averaging* $1.09 per hour.
- Laundry workers were *averaging* $1.00 per hour.

Minimum Wages Set For Hospital Workers

Enactment of the amendments to the Fair Labor Standards Act on September 23, 1966, extended coverage to more than 8 million workers, including 1.4 million employees in non-Federal hospitals, nursing homes, and homes for the aged.

The amended act provides for the following graduated minimum wage scale:

Minimum wage:	*Effective date*
$1.00	February 1, 1967
$1.15	February 1, 1968
$1.30	February 1, 1969
$1.45	February 1, 1970
$1.60	February 1, 1971

An estimated 16 percent, or 237,000 of the employees in non-Federal hospitals, nursing homes, and homes for the aged now earn less than $1.00 an hour.

The act also contains provisions for payment for overtime work.

Moreover, more than one-third of the service and maintenance employees in the nursing homes were scheduled for more than 40 hours per week, although in this industry, only one-fifth of the workers were employed in establishments which had formal provisions for the payment of overtime premiums.

One might expect that these unattractive features would be counterbalanced by advantageous arrangements where other conditions of work are concerned. But this does not seem to be the case, according to information provided by the Bureau of Labor Statistics surveys. For example, in the nongovernmental hospitals (excluding Federal, State, and local hospitals) over 50 percent of the nonprofessional, nonclerical employees received only six paid holidays) or fewer, per year. Among nursing homes, the overwhelming majority of the service and maintenance employees—62 percent—received *not a single* full-day paid holiday during the year, while only 10 percent received more than six paid holidays.

With conditions such as these, the manpower problems of the industry should come as no surprise. The pressing need now is to change those conditions. Fortunately, some movement is occurring which promises to accomplish just that.

Legislation Will Help

The extension of the Fair Labor Standards Act to workers in health institutions will have a beneficial effect on the manpower problems of the industry. By no means, however, is it a panacea. The health industry must still compete for manpower with industries—and these are in the majority—that pay their entry workers more than the Fair Labor Standards Act minimum. However, it is clear that the extension of FLSA coverage to this industry will help the workers and enable the industry to compete for a larger slice of our manpower resources.

Moreover, increased efforts at unionization should have an all-round salutary effect. Admittedly, this is not a view from an unbiased source, but it does seem quite obvious that if unions are successful in improving conditions, the health institutions will be in a better position to compete for much-needed manpower and the rate of turnover will decline. This would then strengthen the ability of the industry to do more and better in-service training and upgrading.

With the improved job opportunities that can result from these developments, more workers, including those who enter at the bottom of the skill ladder, may be inclined to seek a career in the industry. And it will be then, and only then, that the industry will be on the road to solving some of its knottier manpower problems.

Coming in December . . .

Employment Service Counseling

Courses for Inactive Registered Nurses

ELIHU JOSEPH

More than 400 inactive nurses have resumed practice as the result of a series of refresher courses financed under the Manpower Development and Training Act and administered by the New Jersey Division of Employment Security, thereby easing to some extent the acute nursing shortage in New Jersey hospitals.

The program, launched in September 1965 with the active cooperation of the New Jersey Hospital Association, had been suggested earlier in the year by the Governor's Task Force on Nursing Education.

The main problem was to reach the thousands of women who, for family or other reasons, had left nursing some years ago and might be induced to resume their profession. News media throughout the State cooperated fully in giving details of the program, and direct mailings were sent to lists provided by the State Board of Nursing and nursing school alumnae associations.

The refresher course curriculum was planned by the Hospital Association with the help of the State Division of Vocational Education. It was aimed specifically at nurses who had left hospital service some years ago and was designed to familiarize them with the latest advances in hospital practice and medical treatment.

The refresher courses, which ran through the fall of 1965 and the spring of 1966, were sufficiently flexible to allow participation by nurses who had home responsibilities. The curriculum was prepared under the supervision of the State Division of Vocational Education. Instructors were assigned by the hospital, with the approval of the Hospital Research and Educational Trust. The instructors received $3 an hour for a 40-hour week.

The size of the class ranged from 9 to 15 students, with 2 instructors allowed for classes of more than 10. Classes were held 3 or 5 days a week, depending on the convenience of the hospital staff and the students. Ap-

Elihu Joseph is in the Bureau of Public Relations, New Jersey Division of Employment Security.

proximately one-third of the time was devoted to clinical practice and the rest to theory.

During the past year, 43 hospitals in all parts of New Jersey participated in the program; 7 conducted both fall and spring sessions. Of the 607 inactive registered nurses who started the courses, 569 completed their training, and 374 are now working full or part time in their community hospitals. Another 14 plan to resume nursing this fall, and others are known to have joined medical staffs in industrial plants, nursing homes, and similar institutions or gone to work in offices of local physicians.

The success of this initial effort has encouraged a continuation of the program, with similar courses planned for this fall and next spring. It is hoped that another 500 presently inactive nurses will be enrolled throughout the State. Many hospitals that were hesitant about participating in the first program have already asked to be included in the continuing drive for improved nursing facilities in New Jersey.

ANA Moves Ahead

(*Continued from page 15*)

profession found the demands for health care growing both in numbers and in complexity.

With a mandate from the ANA membership, the ANA Commitee on Education, which has been studying trends in nursing education since 1963, produced the ANA Position Paper on Educational Preparation for Nurse Practitioners 5 months after Medicare became law.

Realizing that the public might think the answer to the shortage was in numbers alone, ANA pointed out in its official position that the demands made upon nurses' skills are growing more complex. It was noted that modern science requires new knowledge and skills, the ability to use new and precise instruments, and the performance of critical procedures. It was also emphasized that if modern health care is to be provided, nurses must know much more and must be able to do much more than ever before.

With the great increase in lesser prepared aides on the health scene, the nurse, it was pointed out, must often supervise a health care team and, at the same time, coordinate more closely with physicians as more complicated procedures are delegated.

Because of the increased demands on nurses and changes in education and in society today, the ANA official statement on nursing education states that a baccalaureate degree should be the minimum preparation for professional nursing practice and the associate degree the minimum preparation for technical nursing practice.

Statistics for the last 10 years provide a hopeful sign that, as nursing education becomes campus based, more qualified young people will choose nursing as their profession. From 1955 to 1965, total enrollments in baccalaureate nursing programs increased from 20,883 to 30,378, while at the same time diploma school enrollments were dropping off slightly from 94,812 to 93,760. The phenomenal gain was in the associate degree programs, with enrollments moving from 1,084 to 11,540.

Concerned with the present as well as the future, ANA has urged its State and district associations to stimulate the holding of refresher courses to prepare nurses who have been inactive to reenter practice. There are now 300,000 nurses in this country who are licensed but not practicing.

A strong incentive for the inactive nurse to return to the health care team will be provided as salaries are increased and become commensurate with the knowledge and skills involved.

Although the nursing shortage remains acute—graduations from nursing schools must increase by 75 percent to meet minimum 1970 goals—the direction is being set by ANA for solving the shortage. Nurses are being relieved of housekeeping and nonnursing duties; new patterns of nursing care are being innovated; nurse salaries are showing appreciable gains in some areas of the country; a pattern for future nursing education has been spelled out; and the nursing profession, through a strong ANA intergroup program, offers opportunity to all races and creeds.

What is a Shortage?

Many pitfalls exist in making manpower estimates in the health service field. For example, the Public Health Service estimate of *current shortages* of registered nurses is 125,000. The Employment Service estimate of need, based on an April 1966 job vacancy survey, comes to only 35,000.

The Public Health Service bases its estimate of shortage on such an established criterion as levels of "safe and therapeutic services" which, in turn, is dependent upon a *desirable level* of medical care and hospital facilities. The latter may not be in even the planning stage, let alone have vacant work stations. The Employment Service estimate is based on unfilled jobs for which there are current vacant work stations and for which the employer is actively recruiting.

With respect to distinguishing between "need" and "shortage," a need for workers does not necessarily imply that the workers cannot be recruited. Specifically, the Employment Service considers as "shortage" those hard-to-fill jobs which remain vacant for a month or more despite vigorous recruitment efforts. Only 53 percent of the registered nurse jobs were in this category. This hard-to-fill percentage, of course, varies by area. In Chicago, 67 percent of job vacancies for registered nurses were hard-to-fill; in Los Angeles, 43 percent were hard-to-fill.

Social Work Manpower Needs in Expanding Health Services

CELIA R. MOSS

Exploding ecological, sociological, economic, and psychological forces, involving all related disciplines, are dynamically influencing social work practice in health and medical care programs. The aging, 65 and over, in the United States now number approximately 18 million. To consider their health care needs and potential benefits alone is staggering in the framework of social planning. While the optimum goals of social work remain unchanged, fresh initiative must be identified and demonstrated to adapt practice to the valid demands of our present population. New organization and extension or replacement of present traditional staffing patterns and methods of service appear inevitable in the fast moving course of events.

Although the rationale for providing comprehensive health care has been intellectually supported, and responsibility for social work within health and medical care agencies has long been recognized as essential, current social work practice, like other professions, has not kept pace with new and broadened areas requiring its potential contribution. Present efforts, usually planned within long established, rigidly structured agency framework, are based on policies and attitudes likely to perpetuate fragmentation and gaps in services. Many social workers, traditionally concerned with the social problems of the ill, disabled, and disadvantaged, have concentrated on services to individuals and families within their own limited agency function. They have been too busy with details to make empirical, research-based observations. Little attention has been given to the inter-relatedness of obvious preventive and rehabilitative needs and services on behalf of patients. Continuity of care is well discussed but poorly implemented.

Can social workers be stimulated to develop new patterns of service if the usual ones are no longer adequate? An opportunity for key social workers to address them-

Mrs. E. Hall, Director of Social Service at the Washington (D.C.) Hospital Center talks with a patient.

Celia R. Moss is Director, Departments of Social Service and Home Care, the Montefiore Hospital, Pittsburgh, Pa.

selves to this challenge was developed. The University of Pittsburgh Graduate School of Social Work and the Montefiore Hospital Association of Western Pennsylvania, aided by funds from the Gerontology Branch, Chronic Disease Division, Public Health Service, arranged a 5-day conference in May 1965.

The conference considered the commitment of social work in the changing health scene and made specific recommendation for a course of action in the immediate future. Participants were to set up pilot demonstrations in their individual agencies and return for a second meeting in August 1966 to exchange experiences.

Another significant recommendation of the 1965 meeting was that "a task force be appointed . . . to develop task definitions for social workers with varying levels of educational preparation." A first step was the collection of information about current job definitions used by social work agencies active in the health field.

Data Collection

A pilot survey limited collection of accessible data from conference participants and included information and changing trends in social work services and the need for and use of subprofessional personnel in these social work agencies.

A ready source of information about the tasks and functions of social workers was available in formal job descriptions in most agencies. Consequently, these formed the primary data around which this study was designed.

Job descriptions, however, are not always accurate descriptions of what people do on jobs, or give specific details of job behavior. Nevertheless, the job description has value as the official, public declaration of the nature of the described job. Often, it is the statement of what management believes the job *ought* to be, regardless of how remote this statement may be from practice. Therefore, these were supplemented by a questionnaire on the background of the respondent and his organization, needs being met and to be met by the organization, numbers of social workers in the organization at various levels of education, and on the changes to be expected in the jobs and workers.

Findings

To the extent that the agencies in our sample are representative, it appears that several things can be said about the tasks and functions of social workers in the health field.

The respondents, as administrators or otherwise representatives of social work agencies in the health field, expect most of their agencies to grow in size, scope, and influence. Throughout the Second Conference of Social Workers in the Health Field, emphasis was place on the need to recruit and train baccalaureate degree personnel to extend the contribution of the Masters Degree social worker. Ways are being sought to increase services with available staff and to use lower-level personnel to provide many services which have been carried out by professionals. Emphasis is on direct service to clients within the institution. There are signs that the job pattern of the professional social worker is becoming more consultative, more concerned with planning, and less confined within the walls of the institution although there will probably continue to be a limited number of clients needing direct professional case work service. Group methods may also be expanded in an attempt to multiply the effectiveness of the worker.

Community organization and planning are also becoming important, although the study does not accurately reveal just how much of this kind of activity is actually pursued. A concern with research is growing, no doubt stimulated by the need to evaluate new patterns to make sure that they are truly effective and not merely novel.

Many of these trends appear to be characteristic of other professions in the health field. Society is demanding better availability of health services, and the professions are responding by attempting to expand their services and make them more efficient. To some extent, then, in seeking innovative procedures, the social work profession in the health field is responding to pressure from society and other professions. There is perhaps danger that the actions of social workers will be *merely* responses to such pressure, rather than outcomes of independent and systematic consideration of society's needs and of the roles which social workers are most able to play.

In order to perform effectively in meeting increased requirements, social workers and their agencies must have enough influence to obtain adequate budgets and facilities. Social workers must be represented in planning at institution and higher levels, or the plans may be inappropriate. Expectations for the future may be no more than pious hopes, unless the practical means of implementing plans are found.

It may be that social work can take the lead in developing and demonstrating patterns of service which conserve professional time but which at the same time are considerate of client needs and objectives. There may, for example, be ways of better involving the patient and his family in his care that might be overlooked by the health professions which have tended to concentrate on cure of disease rather than care of people. Perhaps in some small way, studies like this may contribute to such aims.[1]

[1] *Proceedings of the Conference have been published under editorship of the author.*

CORNELL UNIVERSITY
Graduate School of Business and Public Administration
Sloan Institute of Hospital Administration

From Schools of Hos

One of the most important problems in the health field today concerns the improved and more imaginative organization and delivery of already existing services and know-how—a problem calling for the application of administrative-executive talent capable of marshaling and coordinating scarce physical and human resources in the implementation of basic social objectives.

The supply of such talent, unfortunately, falls far short of demands. In June 1966, for example, the number of job openings received by the Sloan Institute of Hospital Administration was over six times the number of available graduating students.

A marked expansion in graduate education for health administration appears vitally necessary. More effort must be given to attracting larger numbers and better qualified students. To do this successfully calls for a vast stepping-up of Federal aid for traineeships and other forms of educational assistance to programs in health administration—whether public health, hospital administration, or medical care.

In this context, it would be most helpful if current restrictions earmarking the bulk of Federal aid to schools of public health were removed so that programs in health administration located elsewhere (in schools of public and business administration, etc.) might benefit equally.

There is also a need for educational programs to reevaluate existing curricula with a view to adjusting them better to complex contemporary health care problems and opportunities.

To complement modernized curricula, educational programs must do more to attract young and inexperienced undergraduates, in addition to persons possessing field experience. Too often, the effect of extensive experience is to promote an intense commitment to assumptions, attitudes, and habits which may act as barriers to innovation and effective classroom learning. Better balancing of inexperienced and experienced students might have a powerful and positive stimulatory educational effect.

Another important manpower problem centers on the shortage of nurses. In addition to the more imaginative use of substitute personnel (e.g., LPN's, orderlies, etc.), more might be done to attract back into practice nurses leaving the field, especially housewives with completed families. Nursing must be made more attractive (remuneration, professional status, role in the treatment process, etc.), and opportunities for continued and inservice education must be broadened.

Also, serious thought needs to be given to recruiting more males into nursing and other female-dominated health occupations. Because of differences in social roles, family life cycle experience, etc., increased employment of males might lead to less turnover and higher rates of productivity.

Turnover and low rates of productivity are especially important among nonmedical employees. Along with a need to infuse higher amounts of capital into hospital activities at this level, such jobs should be made more attractive, both in terms of wages and conditions of employment. Serious thought should be given to recent proposals for the creation of open-end career ladders so that a person might, for example, enter at the lowest unskilled rank and rise to the level of an RN, or even higher.

—ROGER M. BATTISTELLA, *Ph. D., Assistant Professor in Hospital and Medical Care Administration.*

UNIVERSITY OF MICHIGAN
Bureau of Hospital Adminis
School of Public Health, U

In recent years, a great deal of attenti
cerning health manpower, especially
personnel in the health field. Many in
ducted studies and expressed opinions
Although the concensus is that there e
people, including physicians and nurses
marily subjective and lack sufficient obj
standing of the problem. It is not
and conclusions concerning the nature
contradictory.

Two major problems concerning the
manpower shortages are (1) lack of co
terms used, especially the term "shortag
the system governing health manpower,
cation of causal factors and assessme
system.

Careful attention to definitions and
analysis and operations research to inve
ages" could enhance current understand
provide an objective base both for diag
mendations for remedial action.

Initial steps toward the structuring
manpower system have already been
Hansen (1964) and Donald Yett (196
and Stigler (1957) and Arrow and Ca
and engineering. These investigators h
from the concepts of demand and sup
which produce changes in demand an
adjustment process of market mechanis
ance, equilibrium of demand and sup ly

Given an analytical framework, as th
power can be examined with respect to
is determined by factors such as income,
tion; and (*b*) productivity of health m
state of technology and its adaptation,
power is properly educated, trained, and

An examination of health manpowe
as the total human resource potential of
power supply that can or should be at
the conditions or instruments that un
manpower in a given profession.

A set of operational definitions for th

GEORGE WASHINGTON UNIVERSITY HOSPITAL
Department of Health Care Administration

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inistration
University Hospital

enrion has been focused on problems con-
lly problems relating to the shortage of
ny individuals and organizations have con-
ons concerning the problems of shortages.
ere exist general shortages of professional
urses, the studies and expressions are pri-
t objective validation and in-depth under-
not surprising, then, that the opinions
ature of shortages are often found to be

the present state of understanding health
of common and explicit definitions of the
ortage" itself, and (2) lack of analysis of
ower, particularly with respect to identifi-
ssment of their relative impacts on the

and adaptation of the tools of economic
investigations of health manpower "short-
standing of the problem considerably and
diagnosis of the "shortages" and recom-

ring of an analytical framework for the
been taken by such investigators as Lee
(1965) in the health field, and by Blank
d Capron (1959)[1] in the fields of science
ors have derived an analytical framework
d supply, from identification of variables
d and supply, and from analysis of the
hanisms by which, after an initial disturb-
up;ly may be restored.
as the above, the demand for health man-
t to (*a*) demand for health services, which
ome, size and age structure of the popula-
th manpower, which is determined by the
tion, as well as the degree to which man-
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power supply should include such factors
al of society, the fraction of the total man-
be attracted to any given profession, and
t underlie recruitment and retention of

or the concept of manpower shortage has

A variety of reasons underlies the need for much greater numbers of employees in the health care field.

These include the lengthening age span of the population and the advances in research and technology that have resulted in a greater variety and extent of successful health care. Also, more people today are financially able to buy health care. Furthermore, there is the increased availability of insurance plans, as well as the government facilities and care for those who cannot pay for services. Thus, as health care activities grow, so do the needs for physicians, nurses, administrators, technicians, and other health care employees.

Physicians

Physicians are in critically short supply. This is the result, in part, of the competition of the new engineering, physics, communications, and space technologies for students who wish to undertake advanced scientific education. The long and expensive period for preparation for a medical career, the increased legal liabilities of physicians, and the lack of adequate medical teaching facilities appear to have contributed to the shortage.

Administrators

The need for administrators in the health field is growing rapidly, with the supply far from equal to the demand. The 20,000 nursing homes and facilities for the aged have added a very large number of new positions for trained administrators. Medicare, mental health legislation, and federally sponsored health care research programs make the needs even greater.

The problem is complicated further by factors that limit the input into the health care administration field. Paramount here are the cost of education and the lack of publicity regarding the attractiveness of such a career. Also, even if more men and women desire to pursue the formal education required, enough graduate spaces are not available. This is because of the low enrollment ceilings set by most universities having graduate health care programs, and the fact that only a small number offer graduate work in this field.

Nurses and Technicians

In spite of recent Federal subsidization, the shortage of nurses and technicians is due largely to low salaries and lack of suitable training facilities. Furthermore, women predominate in this field so that the total number of available workers is reduced when they leave to marry and raise families.

Although considerable attention is now being given to finding solutions for manpower problems, more needs to be done to decrease the current shortage and to prepare for future increased demands for health care personnel.

—FREDERICK H. GIBBS, *Chairman.*

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emerged from the above analytical approaches to assessment of manpower shortages. However, a great deal remains to be done, and the communication gap between analysts and policy makers needs to be reduced.

It appears that the following distinctions are imperative for any meaningful discussion of manpower shortages in the health sector:

(*Continued on page 49*)

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Technology and Manpower in the Health Service Industry 1965–1975

The following highlights from a study by Herman M. Sturm deal with the impact of technology on manpower in the health service industry.

Technological Developments and Expectations

1. Substantial advances have been made in medical research on disease prevention and cure, and in environmental health protection. Further scientific advance, as well as expanded programs for combatting environmental hazards, can clearly be expected. These successes will save many lives and protect the health of millions, but their net effort is not expected to alter greatly the kinds of health services that will be needed in hospitals or other patient care facilities during the next decade.

2. The innovations in health technology that will most affect health manpower in the next 10 years are most certainly those which are now being designed or adopted for use in patient care facilities. They will involve various kinds of manpower changes, including changes in job content and emergence of new jobs, as well as some labor savings.

3. Significant changes in technology affecting patient care facilities are of many different kinds. They may be grouped as follows: (*a*) developments in diagnosis and patient care; (*b*) developments affecting hospital supply and services; (*c*) hospital information handling; (*d*) improvements in the management and structural design of health facilities.

4. Improvements in patient care technology include such specific developments as automated clinical laboratory equipment, artificial human organs, improved surgical techniques and equipment, and use of the electronic computer to help in diagnosis.

5. Improvements in hospital supplies and services include adoption of disposable items made of plastic and other inexpensive materials, such as hypodermic needles, surgeon's gloves, surgeon's knives, and other products that can be thrown away after use, as well as from adoption of improved materials handling equipment, such as specialized carts, conveyors, and pneumatic tubes.

6. Advances in hospital information handling will come mainly from applications of the electronic computer. Computers are being used not only to handle patient billing and accounting and in medical research and diagnostic applications. They are also being developed to control the flow of information in hospitals so that physicians can get ready access to necessary data, and have their orders for treatment of patients quickly and accurately transmitted to all affected departments. The computer can help nursing, technical, and other departments to avoid errors and attain greater efficiency, with less paperwork.

7. Advances in the functional and structural design of hospitals help toward more efficient utilization of personnel, equipment, and buildings. They involve continuing improvement both in management and in the construction of health facilities, putting into effect concepts of progressive patient care, and other advances in organizing health services.

8. Automation in the laboratory is already well advanced, and will continue to affect both the volume of demand for medical laboratory workers and the content of their jobs. The switch to disposables is already widespread and clearly results in labor saving. In general, other changes in patient care technology are proceeding more slowly; they will especially affect the job content of nurses and some categories of technicians. Use of the computer in hospital information handling, and improvements in the functional organization, management, and design of hospitals and other health facilities, are likely to have significant effects on manpower requirements by improving productivity, but it will take time for the effects of these improvements to become widespread.

Outlook for Health Manpower

1. Anticipated trends in the volume of demand for patient care services and in the kinds of facilities and care that will be needed are the primary influences on future requirements for health manpower. Particularly important will be the Medicare program, which will accelerate needs for personnel to staff hospital nursing units, service, and outpatient departments, and staff requirements for nursing homes and home care programs. The expanding demand for laboratory tests and X-rays will result in continued increase in the need for trained people to do these jobs. Technological developments will affect manpower requirements differently among the various health occupations.

2. The total number of employees in the health service industry will increase rapidly over the next 10 years, at a higher rate than employment in the economy as a whole. The increase will vary among health occupational groups; growth will be highest among X-ray and laboratory technicians, lowest for office personnel, laundry workers, and similar categories.

3. Many new jobs are appearing in the health service field. Some

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examples are inhalation therapists and personnel needed to operate and repair computer installations and other medical electronic equipment. Entirely new categories of health personnel may emerge; some of them are now mainly in the trial or discussion stage, such as the "assistant physician." In long-established jobs, particularly those in the nursing profession, constant need for changes and adjustments in job content and orientation will result from adoption of new equipment and techniques.

4. In general, the effects of changing technology on health manpower will be felt gradually. The pace will accelerate as time goes on, but it is not likely that demands for workers with altogether new skills will outstrip the capacity for training them, under existing or planned widely recommended long-range programs. Nor is it likely that the spread of labor-saving innovations will cause workers to lose their jobs, or alleviate continuing shortages of health manpower.

UNIVERSITY OF MICHIGAN

(*Continued from page 47*)

1. A manpower shortage vs. a shortage of the services provided by the manpower in question. A shortage of a specific health service to the public does not necessarily imply a derived shortage of health manpower. For example, an implied shortage of physicians may be obviated by the use of higher capital–labor ratios, or by better utilization of less-skilled workers. The tools of economic and operations analysis may be used to explore whether manpower utilization patterns are likely to adjust to changes in demand, changes in factor prices, or to technological change. Illustration: In the dental profession, the supply of dental services has increased in recent years by means of a rising ratio of equipment and auxiliary personnel to dentists.[2]

2. An aggregate or general shortage vs. a geographically restricted shortage or a subspecialty shortage caused by maldistribution of resources. The measures appropriate for alleviating an aggregate shortage may be quite different from those designed to mobilize manpower into a particular region or specialty. Illustration: There are differences in the relative shortages, of any version, depending on geographical region, e.g., rural vs. metropolitan, and for different subspecialties within a profession. Yett has in part demonstrated this for the nursing profession.[3]

3. A short-run and possibly transitional shortage vs. a long-run projected shortage. A short-run manpower shortage would require different remedial action from a long-run shortage. For elimination of the former type shortage, temporary measures such as the recruitment of foreign professionals may be used. For the elimination of the latter shortage, the problem should be attacked at its roots, i.e., measures must be directed at the sources of manpower supply. Illustration: Alleviation of a short-run nursing shortage is dependent on increased labor force participation of already trained nurses, while a long-run shortage may be remedied by recruitment of a larger percentage of the qualified population into the nursing profession.

4. A shortage determined with respect to relative earnings changes vs. a shortage determined on the basis of relative internal rates of return.

These two analytical approaches to health manpower shortages address themselves to questions of efficiency in human resource allocation among alternative professions. As such, the concept of manpower shortage is employed in a sense quite different from the excess demand over supply concept referred to in 1–3. For example, using Hansen's approach [4] one may demonstrate a relative shortage in one profession with respect to alternative professions, while no "shortage" is evident according to the excess demand concept.

Which type, version, or level of manpower shortage concept any given investigator will utilize depends on his respective function, objectives, and magnitude of the resources at his disposal. But in the absence of precise definition and specification of the particular concept of shortage utilized in an analysis, it is impossible to determine what constitutes evidence for the existence of a manpower shortage, while it is also unlikely that steps toward the alleviation of shortages can be suggested or properly evaluated.

In summary, relatively little confidence can be attached to available assessments and conclusions regarding present and prospective health manpower shortages because (1) the definition of "shortage" is often vague, and (2) the assessments and conclusions are based on investigation containing inadequate evidence (such as unfilled, budgeted job vacancies, or simple extrapolations of health personnel population ratios) and on nonanalytical statements of causal factors. Thus, it follows that understanding of the problem could be greatly enhanced by more explicit definition of what is meant by "shortage" and by a more analytic approach to the casual factors and interrelationships.

—DR. IRENE BUTTER, *Research Associate, Bureau of Hospital Administration;* LAWRENCE A. HILL, *Director of Program and Bureau of Hospital Administration;* DR. RICHARD C. JELINEK, *Assistant Professor of Industrial Engineering and of Hospital Administration.*

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[1] David M. Blank and George J. Stigler, *The Demand and Supply of Scientific Personnel,* New York, 1957; Kenneth J. Arrow and William M. Capron, "Dynamic Shortages and Price Rises: the Engineers-Scientist Case," *Quarterly Journal of Economics,* May 1959; W. Lee Hansen, " 'Shortages' and Investment in Health Manpower," *The Economics of Health and Medical Care,* Ann Arbor, 1964; Donald E. Yett, "The Supply of Nurses: Economist's View," *"Hospital Progress,* February 1965, and "The Nursing Shortage and the Nurse Training Act of 1964," *Industrial and Labor Relations Review,* January 1966.

[2] Jeffrey H. Weiss, *The Changing Job Structure of Health Manpower,* 1966 Harvard dissertation, ch. IV.

[3] Donald E. Yett, "The Causes and Consequences of Salary Differentials in Nursing," presented at the meetings of the Western Economic Association, Aug. 26, 1966, Berkeley, Calif.

[4] W. Lee Hansen, *op. cit.*

Television + Nursing } More Nurses

EDWARD L. MORRIS

In today's world of increased requirements for hospital service and with the advent of Medicare, the demand for nursing service is greater than ever.

At the joint Labor-HEW Conference on Training Health Service Workers held in February 1966, the president of the American Hospital Association pointed out that there is a shortage of 100,000 nurses by present hospital standards. The diploma schools of nursing of the Chicago metropolitan area have been feeling the pinch for some time in their search for qualified faculty. A survey of teaching faculties of the diploma schools made by the Evanston Hospital School of Nursing in January 1965, showed that in 23 schools there were 26 unfilled budgeted teaching positions. The first annual report of Chicago Video Nursing Education indicated "many" positions were being filled by unprepared personnel. For the nurses, this situation was a call to action.

In the midst of a monumental blizzard in February 1965, representatives of 18 schools convened to discuss ways to deal with this troublesome problem. How could the schools, acting in concert, find a way to solve this shortage of teachers? Under the chairmanship of the director of the Evanston Hospital School of Nursing and with the encouragement of the executive vice president of Evanston Hospital, the schools decided to attempt to make inroads into their problem through the medium of educational television. Many at this first meeting had attended a television workshop at De Paul University in the fall of 1964, including Mrs. Harriett Koch, assistant director of the Evanston School, who had done much research and prepared briefing papers for the other school representatives.

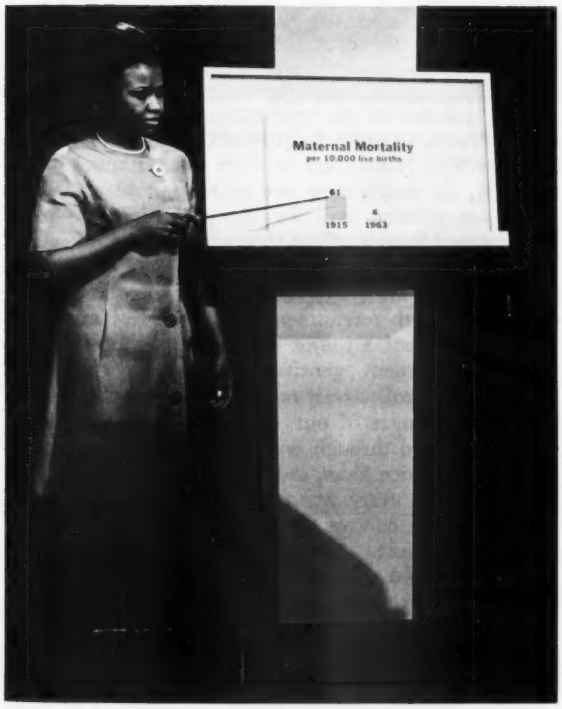
By the time of this first meeting, CETA's TV outlet, WTTW/Channel 11, had, over a 9-year period, already created for the Chicago City Junior College some 58 courses leading to the associate in arts degree and had taught over 60,000 credit students and 75,000 students in not-for-credit enrollment. Accordingly, it was not difficult to recommend to the nursing faculty representatives a potential solution to their problem in filling some of their vacancies with "master" television teachers. There was no suggestion that television would replace classroom instruction, but there could be no question that it could be a means of "stretching" the effectiveness of superior teachers and relieving the pressure.

Before the end of the meeting, seven schools had pledged $1,000 each to begin experiments with television instruction. The areas chosen were based on a further

Edward L. Morris is Director of Programming, WTTW/Channel 11, Chicago, Ill.

A floor director awaits orders from the control room as Nathan Hershey, director of the Health Law Center of the Graduate School of Public Health, University of Pittsburgh, prepares to tape a program on the WTTW/Channel 11 series THE LAW AND THE NURSE.

Al Binford (left), executive producer and host of the WTTW/Channel 11 series NURSING TODAY AND TOMORROW, interviews Illinois Congressman Sidney Yates about Federal health legislation in nursing.



Mrs. Frances Barge conducts a class in the WTTW/Channel 11 series MATERNITY NURSING.

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They rented a course in basic nursing from KTCA–TV, the educational station in St. Paul, and prepared a series of 10 lessons in legal aspects of nursing for use in the winter quarter, 1965–66.

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The Evanston Hospital "loaned" Mrs. Koch to coordinate the TV effort. In consultation with the 18 participating schools, she determined subjects and schedules and applied for Public Health Service funds to be utilized over a 3-year period to prepare nine courses. PHS returned the application and asked that the grant be scaled down. The application was resubmitted, and in August a site committee visited with representatives of CVN for more information.

Rehearsals for the first production got underway by September 1965. Mrs. Koch and her little staff had to learn TV techniques and the WTTW staff had to learn

Television + Nursing } More Nurses

EDWARD L. MORRIS

In today's world of increased requirements for hospital service and with the advent of Medicare, the demand for nursing service is greater than ever.

At the joint Labor-HEW Conference on Training Health Service Workers held in February 1966, the president of the American Hospital Association pointed out that there is a shortage of 100,000 nurses by present hospital standards. The diploma schools of nursing of the Chicago metropolitan area have been feeling the pinch for some time in their search for qualified faculty. A survey of teaching faculties of the diploma schools made by the Evanston Hospital School of Nursing in January 1965, showed that in 23 schools there were 26 unfilled budgeted teaching positions. The first annual report of Chicago Video Nursing Education indicated "many" positions were being filled by unprepared personnel. For the nurses, this situation was a call to action.

In the midst of a monumental blizzard in February 1965, representatives of 18 schools convened to discuss ways to deal with this troublesome problem. How could the schools, acting in concert, find a way to solve this shortage of teachers? Under the chairmanship of the director of the Evanston Hospital School of Nursing and with the encouragement of the executive vice president of Evanston Hospital, the schools decided to attempt to make inroads into their problem through the medium of educational television. Many at this first meeting had attended a television workshop at De Paul University in the fall of 1964, including Mrs. Harriett Koch, assistant director of the Evanston School, who had done much research and prepared briefing papers for the other school representatives.

By the time of this first meeting, CETA's TV outlet, WTTW/Channel 11, had, over a 9-year period, already created for the Chicago City Junior College some 58 courses leading to the associate in arts degree and had taught over 60,000 credit students and 75,000 students in not-for-credit enrollment. Accordingly, it was not difficult to recommend to the nursing faculty representatives a potential solution to their problem in filling some of their vacancies with "master" television teachers. There was no suggestion that television would replace classroom instruction, but there could be no question that it could be a means of "stretching" the effectiveness of superior teachers and relieving the pressure.

Before the end of the meeting, seven schools had pledged $1,000 each to begin experiments with television instruction. The areas chosen were based on a further

Edward L. Morris is Director of Programming, WTTW/Channel 11, Chicago, Ill.

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Sister Therese Ann, Missionary of the Holy Spirit, an instructor at the St. Therese Hospital School of Nursing in Waukegan, Ill., with Mrs. Frances Barge, Maternity Instructor-in-Charge at Michael Reese Hospital and Medical Center, Chicago, on the set of the WTTW/ Channel 11 series MATERNITY NURSING. They are both principal instructors on the series.

about nurses and nursing. Video Nursing took to the air in the fall of 1965 and planning began for Trends (now known as Nursing: Today and Tomorrow). During the winter PHS made an initial grant to Chicago Video Nursing to begin the production of courses in obstetrical nursing, pediatrics, and human growth and development for the first year along with Trends.

During the fall and winter of 1966–67, more than 1,000 nurses in 20 schools of nursing in the Chicago metropolitan area will receive part of their education via television. Courses being broadcast will include: Legal aspects, trends, obstetrics, and history of nursing. Of these, three courses will have been recorded in the partnership between the combined schools of nursing and the Chicago Educational Television Association. Plans call for further recordings in pediatrics and growth and development to be completed this winter for use by fall, 1967. It is hoped that additional funds can be obtained in a second year extension of the programing to begin recording in the more difficult subjects of psychiatric nursing and medical-surgical areas.

Although the success of the teaching program is still being evaluated, Chicago Video Nursing's members are expressing great satisfaction with the program. This pioneering effort breaks trail for a method which could lead to a concerted attack on training and retraining needs throughout the health field. Among the projects now being contemplated are refresher courses in nursing specialties for graduate registered nurses who are reentering the profession after retirement. The other implications for basic training, on-the-job enrichment, and clinical training are very far-reaching. Many other professional and technical specialties that are crying out for training assistance might well find an answer in the use of educational television as the "Big Teacher."

MANPOWER NEEDS IN NURSING HOMES

(*Continued from page 17*)

will, at the same time, constitute a stable and essential component of the health industry.

Physicians and others concerned with medical care administration are heartened by the prospect that skilled nursing homes and home care agencies are moving effectively to forge the remaining links in the chain of resources needed for continuity of patient care. From the employment point of view, however, this development accentuates our already severe health manpower shortages.

Improved nursing home standards automatically necessitate increased professional staffs. In order to qualify under Medicare and similar standards, literally thousands of nursing homes will be required to recruit registered nurses, licensed practical nurses, and nursing aides at a time when educational and training facilities are already hard pressed to meet current demands for these categories of health personnel.

Since nursing is the basic service in the nursing home, the need in this area is for full-time employees. In the related health professions, part-time or consultative employment will often prove sufficient to guarantee good patient care. The physical, occupational, speech and hearing, and other therapists, properly oriented and directed, can multiply their skills and serve several nursing homes. The same is true of the dietitian and the medical social worker. But all these professions must be mobilized, motivated, and coordinated for the purpose of providing such service.

Each member of the professional staff of the skilled nursing home must be supported by several nonprofessional persons functioning as aides or assistants. Quantitatively, the employment and training problems for this group are greater than for the professionals. Public Employment Service offices throughout the country may well find that they can make their most effective contribution to solution of the nursing home manpower shortage through recruitment of this type of personnel.

They represent a major challenge to all public and private employment agencies in the country. Similarly, they represent collectively one of the greatest vocational training challenges of our time. Although much can be accomplished through on-the-job training of nursing aides, food service aides, laundry workers, and the like, there exists in every State a growing need for more formal training courses to prepare workers for nursing home employment.

From the point of view of establishing uniform standards of patient care throughout the country, the nursing home industry is making progress. From the point of view of adequate financial support for high quality nursing home care, the future is brighter than the past. From the point of view of health manpower and manpower training—at all levels of skill—the challenge is unprecedented.

Virginia O. Hannig instructs an operator in the use of an electronic data-processing machine for a medical stores inventory in a Seattle hospital.

Automation—Hospital Boon or Bogey?

VIRGINIA O. HANNIG

Are blinking lights and clicking switches to replace the heart and mind of the hospital worker? Must nurses learn such esoteric matters as higher mathematics and symbolic logic to keep in step?

At first glance, just the language of automation can be disconcerting, if not frightening. Many of the words and symbols sound as foreign and mysterious to the nurse with a master of science degree as to the stock clerk with a high school diploma—words like batch-processing, input-output, peripheral equipment, random-access-storage, programing. Who wants to learn a whole new language and a whole new way of doing things? Yet by computerizing business details and freeing more workers for active health care, automation can be as much of a boon to hospitals as it is to the space program.

Scientists who use computerized methods for fantastic, way-out research must have advanced mathematical skills in addition to extensive knowledge of their particular field of interest, whether it is testing submarines, guiding missiles, or solving equations. But automated data processing requires no unusual

mathematical aptitudes; the same principles and knowledges are used whether paper work is done by hand or by computer. The equipment works at lightning-like speeds compared to the old methods, and it will perform many operational sequences without continuous attention.

Worker Still Needed

But someone has to decide what information must go into the system, what calculations must be performed, and in what order. Therefore, the knowledges and skills of the worker are dependent upon the subject matter, just as they always have been. Only the machinery is different. The individual worker no longer has to sit at the typewriter, adding machine, or calculator and perform repetitive operations hour after hour. Once the instructions and data have been given the machine, the worker presses a button or flips a switch to start the operation, and goes about other business while the equipment performs its calculations and prints the results without interruption.

An example can be found in the Medical Stores Department of a Seattle hospital. Here, the worker who was once known as an inventory clerk is now called a computer operator. She has essentially the same responsibilities and is dealing with the same problems today as she did a year ago when the computer was installed. But she can let the machine do much of the routine work, while she goes on to other activities. All of the stock items in the department are machine punched on inventory cards, instead of by the old hand method. When stock is withdrawn from inventory, each item is punched into rolls of tape indicating stock number, quantity withdrawn, price, etc. With the roll of tape mounted on the computer spindle and the inventory cards loaded into the machine, the operator merely pushes a button and flips a switch to start the system operating.

The computer punches out new inventory cards showing the balance of each stock item on hand after the day's requisitions have been filled. It multiplies the quantity withdrawn by the cost per item, and it types up individual billings to the departments ordering the supplies. The perpetual inventory recording—the addition, subtraction, multiplication, and typing—is done in one continuous operation. None of this requires the intervention of the operator except to push certain buttons or type in corrections when human errors have provided inaccurate information to the computer.

Machine Not Large

The Medical Stores Computer is not a large, imposing set of steel cabinets with a formidable display of complex circuitry behind glass panels. It is a desk-size console housing the punching, calculating, and printing mechanisms. The keyboard is very similar to that of a typewriter. The entire installation takes up no more room than does the desk, typewriter, and files of the average office worker. No one was out of a job when the computer was installed, because hospital expansion and additional patient load had resulted in a tremendous increase in the number of inventory transactions. The computer installation made it possible to keep up with the volume.

Dull paperwork has been a source of frustration for many nurses who would rather play a more personal role in the patient's recovery. A woman who really loves nursing, but finds herself swamped with administrative detail, may feel that her true interests and talents are wasted. Yet much of the routine clerical work can be taken out of nursing and other hospital jobs through the use of programed automation.

In one large Seattle hospital, the data-processing department uses machines to do the accounting work for the business office, to prepare 18,000 patient billing statements each month, to tell the cooks what to cook from an annual cycle menu, to tabulate how much and what kind of work is done by Central Dictation, and to make myriad other records. Every patient admitted, every diagnosis made, every operation performed since the hospital opened, is recorded by machines for the Medical Records Department.

What of Future Needs?

Forecasting is possible, too. About a year ago, a project to forecast nursing needs for each shift was worked out for the machines. Twice a day information on each patient in the hospital and his need for nursing care is assembled and a report prepared by data-processing machines. Running the data through the machines takes about 15 minutes. The results make it possible for nursing supervisors to determine the number of nurses required and to assign them where and when needed.

This same hospital is now considering the application of an automated system to nursing stations. Desk-size computers can be used as communication centers between the nurses and other parts of the hospital. The installation will automatically maintain records on drug supplies, narcotics, and service items, thereby relieving the nurse of periodic inventories and reordering procedures.

The computer will print a census listing, which provides a current record of all patients and their locations. The nurse can request patient, test, or record status from the machine and receive accurate rapid response, which previously required several phone calls or extensive time to obtain. The system will prepare a summary of standing, conditional, or special orders at shift change to reduce the need for oral or handwritten transfer of information. Work schedules, patient summaries and reminder messages are automatically provided, allowing more time

(*Continued on page 60*)

Virginia O. Hannig is an Employment Service Specialist in the Seattle Youth Opportunity Center. In her former position as Occupational Analyst in the Occupational Research Field Center she analyzed electronic data processing occupations in Seattle hospitals to revise the Bureau's publication, "Job Descriptions And Organizational Analysis For Hospitals and Related Health Services."

Identification of Health Occupations

MARYLAND Y. PENNELL

Nearly 3 million persons were employed in 1965 in occupations unique to the health field. Employment statistics on each of these professions and occupations are presented in a new publication soon to be released by the U.S. Department of Health, Education, and Welfare, HEALTH MANPOWER IN THE UNITED STATES, 1965 (Public Health Service Publication No. 1509). The occupations mentioned are based in large part on those identified in the U.S. Employment Service publication, HEALTH CAREERS GUIDEBOOK.

The accompanying table 1 shows health occupations grouped into 35 categories, corresponding to chapters in the PHS publication. The most usual or preferred form of the occupational title is followed by synonyms or designations related to field of practice or place of employment. Thus, the list contains more than 300 primary and alternate job titles, without counting cross references between health fields. Even then the inventory could be incomplete. Some types of health workers or specialists may have been inadvertently omitted.

Only occupations for which workers are required to have special education or training designed to help them function in a health setting have been included. Many other persons perform the business, clerical, and maintenance services essential to the health services industry, even though their occupations are not considered to be unique to the health field. Among such personnel are accountants, admitting officers, business managers, cashiers, controllers, credit managers, directors of office services, directors of volunteer services, employment interviewers, employment managers, hospital engineers, housekeepers and housekeeping workers, job analysts, laundry managers and workers, maintenance workers, personnel directors and office workers, public relations directors, purchasing agents, stationary engineers, and stockroom managers.

The occupational duties of workers in each of the health professions and occupations are described briefly in the PHS publication and hence are not repeated here. The reader may want to refer also to two recent publications issued by the U.S. Department of Labor: DICTIONARY OF OCCUPATIONAL TITLES and OCCUPATIONAL OUTLOOK HANDBOOK.

There is no general agreement on which are the health occupations or the health fields. The ones shown here have proved useful for the current analysis of health manpower resources. Obviously, they can be augmented or classified into other combinations. It is hoped that the summary in table 1 and the list in table 2 may prove useful to persons and organizations concerned with the provision of health services and the training of persons to provide these services.

Maryland Y. Pennell is Manpower Statistics Branch Chief, Health National Center for Health Statistics, Public Health Service, Department of Health, Education, and Welfare.

Table 1.—Summary of Number of Occupations Within Each Health Field and Estimated Persons Employed: 1965

Health field	Health occupation [1]		Estimated persons employed [1]
	Primary job title	Alternate job title or specialty	
All fields	140	175	2, 778, 900–2, 898, 700
1. Administration of health services [2]	10	7	31, 500–37, 000
2. Anthropology and sociology	2	3	600–800
3. Automatic data processing	4	.....	[3] 300
4. Basic sciences in the health field	16	8	44, 200
5. Biomedical engineering	2	3	7, 500
6. Chiropractic and naturopathy	2	2	25, 000
7. Clinical laboratory services	10	6	85, 000–95, 000
8. Dentistry and allied services	4	9	[4] 230, 900
9. Dietetic and nutritional services	5	9	[5] 30, 000
10. Economic research in the health field	1	1	500
11. Environmental health	17	17	[6] 32, 500–35, 000
12. Food and drug protective services	3	.....	16, 500
13. Health and vital statistics	4	6	[7] 1, 400–2, 400
14. Health education	3	1	16, 700
15. Health information and communication	7	4	5, 000
16. Library services in the health field	2	1	[8] 8, 000
17. Medical records	2	.....	37, 000
18. Medicine and osteopathy	2	35	[4] 305, 100
19. Midwifery	1	1	5, 000
20. Nursing and related services	8	23	[9] 1, 409, 000
21. Occupational therapy	2	1	[6] 6, 000
22. Orthopedic and prosthetic appliance making	3	.....	3, 300
23. Pharmacy	2	2	[6] 118, 000
24. Physical therapy	2	1	[6] 12, 000
25. Podiatry	1	1	7, 600
26. Psychology	1	5	9, 000
27. Radiologic technology	1	4	70, 000
28. Secretarial and office services	3	8	150, 000–250, 000
29. Social work	2	2	[6] 17, 500
30. Specialized rehabilitation services	6	3	5, 300–5, 900
31. Speech pathology and audiology	2	.....	14, 000
32. Veterinary medicine	1	.....	[4] 23, 700
33. Visual services and eye care	4	6	40, 400
34. Vocational rehabilitation counseling	1	1	4, 200
35. Miscellaneous hospital services	4	5	[10] 6, 200

[1] Each occupation is counted only once. For example, all physicians are counted in "18. Medicine and osteopathy" even though certain specialists perform in other health fields.
[2] Excludes business, clerical, and maintenance workers.
[3] Estimates not available for programers, operators, and electronic technicians.
[4] Includes total personnel (active and innactive) for dentists, physicians, and veterinarians.
[5] Estimates not available for food service supervisors, clerical workers, and other workers.
[6] Estimates not available for aides and technicians.
[7] Estimates not available for statistical clerks.
[8] Includes technical and clerical workers in medical libraries. Estimates not available for patients' librarians.
[9] Estimates not available for ward clerks.
[10] Estimates not available for electrocardiograph technicians and hospital aides—obstetrical, pediatric, surgical, and so forth.

Source: *Health Manpower in the United States, 1965,* Public Health Service Publication No. 1509.

Table 2.—List of Health Occupations Within Each Health Field (Alternate Titles in Italics)

1. ADMINISTRATION OF HEALTH SERVICES

Administrator [1]
Health department
- Health officer [2]
- Public health administrator
- Administrative officer
- Program analyst [1]
  - *Analyst* [1]
  - *Program specialist*
  - *Public health analyst*
  - *Public health specialist*
- Program representative
  - *Public health representative*

Institution
- Hospital administrator
- Hospital administrative assistant
- Nursing home administrator
- Nursing home administrative assistant

Voluntary health agency
- Health agency administrator
- Field representative
  - *Health agency executive*

2. ANTHROPOLOGY AND SOCIOLOGY

Anthropologist [3]
- *Cultural anthropologist*
- *Physical anthropologist*

Sociologist [3]
- *Medical sociologist*

3. AUTOMATIC DATA PROCESSING

Systems analyst [3]
Computer programer [3]
Computer operator [3]
Electronic technician [3]

4. BASIC SCIENCES IN THE HEALTH FIELD

Research scientist
Anatomist
- *Cytologist*
- *Embryologist*
- *Histologist*

Biochemist
Biologist [4]
Biophysicist
Botanist
Chemist [4]
Ecologist [4]
Entomologist
Geneticist
Microbiologist [5]
- *Bacteriologist* [4]
- *Mycologist*
- *Parasitologist*
- *Virologist*

Nutritionist [6]
Pathologist [7]
Pharmacologist [4]
Physicist [4]
Physiologist [4]
Plant pathologist
Plant physiologist
Zoologist

5. BIOMEDICAL ENGINEERING

Biomedical engineer
- *Bioengineer*
- *Medical engineer*

Biomedical engineering technician
- *Medical engineering technician*

6. CHIROPRACTIC AND NATUROPATHY

Chiropractor
Naturopath
- *Drugless healer*
- *Sanipractor*

7. CLINICAL LABORATORY SERVICES

Clinical laboratory scientist
- Clinical chemist
- Microbiologist [5]

Clinical laboratory technologist
- Chemistry technologist
- Microbiology technologist
- Medical technologist
  - *Blood banking technologist*
  - *Chemistry technologist*
  - *Microbiology technologist*
  - *Nuclear medical technologist*

Clinical laboratory technician
- *Clinical laboratory assistant*
- *Laboratory technician* [8]
- *Medical technician*

Cytotechnologist
- *Cytotechnician*

Histologic technician
Certified laboratory assistant

8. DENTISTRY AND ALLIED SERVICES

Dentist [1]
- *Endodontist*
- *Oral pathologist*
- *Oral surgeon*
- *Orthodontist*
- *Pedodontist*
- *Periodontist*
- *Prosthodontist*
- *Public health dentist*

Dental hygienist
Dental assistant [9]
Dental laboratory technician
- *Laboratory technician* [8]

9. DIETETIC AND NUTRITIONAL SERVICES

Home economist
Dietitian
- *Administrative dietitian*
- *Consultant dietitian*
- *Research dietitian*
- *Teaching dietitian*
- *Therapeutic dietitian*

Nutritionist [6]
- *Public health nutritionist*
- *Research nutritionist*
- *Teaching nutritionist*

Food service supervisor
Food service clerical worker
Food service worker

10. ECONOMIC RESEARCH IN THE HEALTH FIELD

Economist [3]
Health economist

11. ENVIRONMENTAL HEALTH [10]

Environmental health engineer and aide
Engineer
Air pollution engineer
Industrial hygiene engineer [11]
Public health engineer
Radiological engineer
Safety engineer [11]
Sanitary engineer
Other engineers
Engineering aide
Sanitarian and sanitarian technician
Sanitarian
Sanitarian technician
Sanitarian aide
Sanitary inspector
Environmental health scientist and specialist
Bacteriologist [4]
Biologist [4]
Radiobiologist
Chemist [4]
Radiochemist
Ecologist [4]
Epidemiologist
Hydrologist
Industrial hygienist
Industiral hygiene engineer [11]
Safety engineer [11]
Limnologist
Meterologist
Microbiologist [5]
Pharmacologist [4]
Physicist [4]
Health physicist
Radiological physicist
Physiologist [4]
Radiation protectionist
Radiological health specialist
Toxicologist
Environmental health technician
Health physics technician
Health physics monitor
Radiation monitor
Radioisotope technician
Sewage plant technician-assistant
Waterworks technician-assistant

12. FOOD AND DRUG PROTECTIVE SERVICES

Food technologist
Food and drug inspector
Food and drug analyst

13. HEALTH AND VITAL STATISTICS

Health statistician
Biomathematician
Biostatistician
Mathematician
Public health statistician
Statistician [1]
Statistical clerk
Vital record registrar
Health demographer
Demographer

14. HEALTH EDUCATION

Public health educator
Health educator
School health educator
School health coordinator

15. HEALTH INFORMATION AND COMMUNICATION

Science writer
Medical writer
Health information specialist
Information specialist [1]
Technical writer
Editor
Illustrator
Poster and display artist
Draftsman
Medical illustrator
Medical photographer

16. LIBRARY SERVICES IN THE HEALTH FIELD

Medical librarian
Patients' librarian
Hospital librarian

17. MEDICAL RECORDS

Medical record librarian
Medical record technician

18. MEDICINE AND OSTEOPATHY

Doctor of Medicine
Physician [1]
Intern
Resident
Allergist
Anesthesiologist [12]
Aviation medicine specialist
Cardiologist [13]
Dermatologist
Ferensic pathologist
Gastroenterologist
General practitioner [13]
Gynecologist
Industrial physician
Internist
Neurological surgeon
Neurologist [13]
Occupational medicine specialist
Obstetrician [13]
Ophthalmologist [14]
Orthopedic surgeon
Otolaryngologist
Pathologist [7]
Pediatrician
Physiatrist
Plastic surgeon
Preventive medicine specialist
Proctologist
Psychiatrist
Public health physician [2]
Radiologist [11]
Surgeon [13]
Thoracic surgeon
Urologist
Health officer [2]
Doctor of Osteopathy
Osteopathic physician
Also titles listed under Doctor of Medicine

19. MIDWIFERY

Midwife
Lay midwife
Nurse [15]
Nurse midwife [15]
Physician [13]
General practitioner [13]
Obstetrician [13]

20. NURSING AND RELATED SERVICES

Professional nurse [15]
Nurse [1]
Registered nurse
Graduate nurse
Hospital nurse
Private-duty nurse
Office nurse
Public health nurse
School nurse
Occupational health nurse
Industrial nurse
Nurse anesthetist [16]
Nurse midwife [15]
Obstetrical nurse
Operating room nurse [16]
Pediatric nurse
Psychiatric nurse
Practical nurse
Licensed practical nurse
Vocational nurse
Licensed vocational nurse
Nursing aide
Psychiatric aide
Orderly
Attendant
Home health aide
Home aide
Visiting health aide
Homemaker
Ward clerk
Floor clerk

21. OCCUPATIONAL THERAPY

Occupational therapist
Occupatioinal therapy assistant
Occupational therapy technician

22. ORTHOPEDIC AND PROSTHETIC APPLIANCE MAKING

Prosthetist
Orthotist
Orthopedic technician

23. PHARMACY

Pharmacist
Community pharmacist
Hospital pharmacist
Pharmacy helper

24. PHYSICAL THERAPY

Physical therapist
Physical therapy aide
Physical therapy technician

25. PODIATRY

Podiatrist
Chiropodist

26. PSYCHOLOGY

Phychologist [8]
Clinical psychologist
Counseling psychologist
Measurement psychologist
Psychometrist
Social psychologist

27. RADIOLOGIC TECHNOLOGY

Radiologic technologist
Medical X-ray technologist
X-ray technician
Nuclear medical technician
Radiation therapy technician

28. SECRETARIAL AND OFFICE SERVICES

Secretary [8]
Dental secretary
Medical secretary
Receptionist [8]
Dental receptionist
Medical receptionist
Assistant [8]
Dental assistant [9]
Medical assistant
Optometrist's assistant
Office assistant
Office aide

29. SOCIAL WORK

Social worker [3]
Medical social worker
Psychiatric social worker
Social work assistant

30. SPECIALIZED REHABILITATION SERVICES

Corrective therapist [17]
Educational therapist
Manual arts therapist
Music therapist
Recreational therapist
Adjunctive therapist
Recreator
Therapeutic recreation specialist
Homemaking rehabilitation consultant

31. SPEECH PATHOLOGY AND AUDIOLOGY

Speech pathologist
Audiologist

32. VETERINARY MEDICINE

Veterinarian [1]
Public health veterinarian

33. VISUAL SERVICES AND EYE CARE

Physician [14]
Ophthalmologist [14]
Oculist
Optometrist
Optician
Dispensing optician
Optical technician
Optical laboratory mechanic
Lens grinder
Lens polisher
Orthoptist
Orthoptic technician

34. VOCATIONAL REHABILITATION COUNSELING

Vocational rehabilitation counselor
Rehabilitation counselor

35. MISCELLANEOUS HOSPITAL SERVICES

Anesthesiology service
- Physician [13]
  - *Anesthesiologist* [12]
- Nurse [16]
  - *Nurse anesthetist* [16]
- Inhalation therapist

Cardiology service
- Physician [12]
  - *Cardiologist* [12]
- Electrocardiograph technician

Neurology service
- Physician [13]
  - *Neurologist* [13]
- Electroencephalograph technician

Other services
- Physician [13]
  - *Surgeon* [13]
  - *Other*
- Nurse [16]
  - *Operating-room nurse* [16]
  - *Other*
- Aide
  - *Obstetrical aide*
  - *Operating-room assistant*
  - *Pediatric aide*
  - *Surgical aide*
  - *Surgical technician*

[1] Also in health field 11.
[2] In health fields 1 and 18.
[3] Not all persons with this job title are considered to be health workers; see alternate titles designating those in the health field.
[4] In health fields 4 and 11.
[5] In health fields 4, 7, and 11.
[6] In health fields 4 and 9.
[7] In health fields 4, 11, and 18.
[8] In health fields 7 and 8.
[9] In health fields 8 and 28.
[10] Personnel in addition to those listed include administrators, analysts, dentists, information specialists, nurses, physicians (pathologists, radiologists, and others), statisticians, and veterinarians.
[11] Job title may be engineer and industrial hygienist.
[13] In health fields 18 and 35.
[13] In health fields 18 and 19.
[14] In health fields 18 and 33.
[15] In health fields 19 and 20.
[16] In health fields 20 and 35.
[17] Excludes adapted physical educators.

Source: *Health Manpower in the United States, 1965,* Public Health Service publication No. 1509.

AUTOMATION

(*Continued from page 54*)

for direct patient care. The mechanism will automatically transmit printed instructions as to what medicine is to be given each patient and when. Its double-check system requires the nurse to push certain buttons or type certain information to tell the machine that medicine has been administered as instructed. If this verification is not received, the machine will automatically print a reminder!

It would take an engineer, perhaps, to describe how it all works. The basic principle, however, is that a file for each patient is automatically recorded and contained in the computer storage system. Succeeding information such as diet orders, medication orders, and many other routine and technical procedures are incorporated into the machine by communication from the nursing station or from other departments. By using buttons and switches and a typewriter-like keyboard, nurses can put in or take out information from the system. To become familiar with this type of computerized equipment requires relatively little training time. It is not necessary to know what diodes, transistors, or microrelays are used or where they are located. The nurse needs to know what she has always needed to know—nursing. But the simplicity of centralized information storage and its accuracy and efficiency reduce clerical effort and eliminate duplication of records, thereby giving the nurse more time for professional duties. Similar systems may be seen in the larger hospitals as time goes on.

Automation should be viewed without fear of drastic reduction in jobs or of serious training problems for most hospital workers. Yet, sometimes, new ways of doing things are unconsciously if not actively resisted at first—though upon closer examination, they are often found to be more productive and efficient than the old ways. Certainly this is true of automation. It is the only means by which hospitals have been able to keep up with the processing of business detail, which has been increasing at a phenomenal rate. And certainly it is a boon to the nurse bogged down in paperwork.

When automated systems are programed as work aids to nurses and other hospital staff, the necessary retraining and orientation to the machines are not difficult and the rewards are many. To those whose main interests are in patient care, in the words of one hospital executive, "Machines aren't interesting, but the work they do is." And machines are no substitute for people. People provide the competence, the decision-making, and the dedication to care for the sick and the injured. The service is the same no matter what machinery is used.

"Occupational Trends In Health Care Industries, King County, 1965–1970" by Virginia Hannig describes the results of a cooperative project of the Washington Employment Security Department and the State Board for Vocational Education. Copies are available from either agency.

OJT—Solution for Health Manpower Shortages

MARTIN KARP

In April 1966, the Social Development Corporation contracted with the Department of Labor to plan, promote, and develop MDTA–OJT proposals for approval and funding of projects in health occupations of projects in health occupations by the Bureau of Apprenticeship and Training. The proposals that have since been written will result in training projects for nonprofessional personnel, such as nurse aides, orderlies, and surgical technicians, in health facilities that have collective bargaining agreements. As of this writing, it is too early to discuss trainee characteristics, recruitment, or selection. However, in recent months, as the SDC Health Services Training Project staff have been conveying to health facilities the sense of the Manpower Development and Training Act, two disparities with broad ramifications have come into sharp focus.

First, there is the disparity between low wages and the stringent demands made upon nonprofessional health workers. Second, despite these demands, there is no career ladder in the health industry, with resulting dead-end jobs. The byproducts of this combination are tremendous labor turnover, manpower shortages, and economic waste. I should like to discuss the latter disparity, leaving the matter of low wages to management, unions, and legislative action.

In no other industry is the "pecking order" more evident. From the viewpoint of a nurse aide, no matter how experienced or capable she is, becoming an LPN is almost as remote as becoming a Ph. D. To become an LPN, she must leave her job, which is virtually impossible for the economically disadvantaged (the usual status for this nonprofessional occupation), and take a prescribed number of institutional training hours until she is deemed qualified in accordance with State law. She will be given no credit toward certification for her experience or capabilities. Even if she does get to be an LPN, and then aspires to become an RN, she will have to begin all over again. The institutional training necessary to become an LPN would be rendered worthless. All of this, in light of critical nurse shortages, defies any logic than can be brought to bear upon the situation.

By making OJT funds available, the Federal Government has given the health industry an effective mechanism for a start toward closing manpower gaps in nursing. However, it is up to professional leadership in the health field to take advantage of this mechanism, thereby serving the interests of their industry and the public.

Invariably, hospital administrators are quite responsive to the prospect of setting up on-the-job training projects under the auspices of the Department of Labor. However, they are disappointed when they find that funds are not available for training personnel in their hospitals for occupations which require a State license or certificate (LPN's, inhalation therapists, home health aides, hematology and X-ray technicians, etc.). Yet this training technique is not only effective but more economical than institutional training. For example, medical corpsmen in the Armed Forces refer 10 out of every 100 soldiers to a medical officer and treat the other 90 themselves. It is worth noting that some of the finest supportive medical personnel were trained on the job in the Armed Forces.

OJT and the establishment of career ladders are not only compatible, but also would allow maximum vertical mobility. This is particularly important to poor people without skills, who may have potential ability but are financially unable to leave their jobs to return to school. After all, who but poor and unskilled people are willing to take jobs that keep them in poverty? Why not allow these people to advance themselves on the job?

Hospital administrators need to have a more than peripheral understanding of the limitations and expectations of legislation that are intended to help solve their problems. Cooperating groups representing management, labor, and professional organizations should be formed at

(*Continued on page 65*)

Martin Karp is Project Director, Social Development Corporation, Washington, D.C.

PHS Supports New Health Manpower Studies

ALEXANDER ADLER

With Medicare scheduled to go into effect in July 1966, a survey of manpower in hospitals was of prime importance. The last such census had been conducted in 1958.

A cooperative venture was undertaken by the Community Health Services Division of the Public Health Service (PHS) and the American Hospital Association (AHA), to collect much needed data. Since about half of all health service workers are in hospitals, this project will provide information for planning educational programs, evaluating and predicting problems and deficiencies, and, ultimately, devising better utilization patterns. Funding for this project and others described later in this article came from the heart, cancer, and stroke legislation which provided $500,000 for health manpower research.

About 7,100 hospitals listed with the AHA have been surveyed. A supplemental survey of about 2,000 non-AHA listed hospitals and in about 14,000 nursing homes is being conducted by the Division of Nursing. Data will be assembled on the number of nurses and auxiliary workers now employed. The picture will be completed later with data on health workers employed elsewhere. All this information will be stored on computer tapes for easy retrieval.

The hospital survey excluded doctors and dentists on the hospital staff but covered approximately 60 job categories. Nurses and nurse aides are typically thought of as a major part of the hospital scene, but a complete profile includes many specialities, such as the occupational therapist, physical therapist, inhalation therapist, and various technicians (cytotechnician, histological technician, etc.). Food service managers, who work side by side with the dietitians, and recreation therapists are now an integral part of the total hospital effort and are so included. Social workers and their aides, who serve to relate the hospitalized patients to the community, and nuclear medicine technologists, a rather recent addition to the hospital work force, also are included.

One of the first women physicians to enroll in the Presbyterian Medical Center's Continuing Education "refresher" program is Dr. Margaret L. Brown shown here with program director, Dr. Arthur Selzer.

Alexander Adler is Chief, Scientific and Technical Communications Section, Manpower Resources Program, Division of Community Health Services, U.S. Public Health Service.

MANPOWER TRENDS

. . . . . Demand for qualified and experienced workers continued high in September, when younger workers in large numbers withdrew from the labor force to resume their education, and unemployment declined seasonally to 2.6 million and the unemployment rate edged down from 3.9 to 3.8 percent. The job situation for Negroes and for unskilled workers showed no significant change, after deterioration from April to August.

. . . . . Equaling May's high for the past 15 years, 59 major areas were classified as having low (1.5 to 2.9 percent) unemployment in September, as employment conditions in the Nation's largest metropolitan centers continued to tighten. Another 83 of the 150 major areas regularly classified by the U.S. Employment Service and affiliated State agencies were in the moderate (3 to 5.9 percent) unemployment category. Compared with 19 last year, only 8 major areas were still listed as having substantial (6 percent or more) unemployment in September. Atlantic City, N.J. and New Bedford, Mass. were the latest of the major areas to be removed from the substantial unemployment list.

. . . . . The number of openings unfilled for lack of local applicants and for which workers were sought through the Employment Service interarea recruitment system was 70 percent above September 1965. Job openings placed in interarea recruitment this September for workers with industrial skills increased nearly 96 percent over last year.

. . . . . Among efforts designed to relieve existing shortages or contribute to the maximum utilization of the available unemployed is a program in Providence, R.I. Local Employment Service offices in that area have established a two-man team for house-to-house visits in search of applicants, to recruit workers needed by local manufacturing employers. When possible, the team makes on-the-spot referrals and the program has been successful in placing housewives and older men in jobs. The technique has located and placed workers who had failed to respond to all other recruitment efforts and has produced sufficient results to justify expansion of the plan to other offices of the Employment Service agency.

In September, Mississippi local Employment Service offices began submitting to the State office a weekly summary of unfilled job openings and efforts made to recruit needed workers. The information will be used in general program planning to meet skill shortages and to insure that every effort is made to meet needs of individual employers.

The Kentucky Department of Economic Security, assisted by the University of Kentucky, will be responsible for carrying out a survey of the job market in the Louisville metropolitan area. Concentrating on aspects rele-

vant to the needs of the disadvantaged, the 12-month survey program will be financed under a grant by the Office of Economic Opportunity to Jefferson County and the City of Louisville. The survey will cover present and future labor supply and demand, by occupation, and training programs necessary to meet the changing requirements of jobs in every industry in the area.

Older workers are being provided services of the Employment Service by volunteers in experimental and demonstration projects in a neighborhood setting in Louisville and Sacramento. Two models are being used in each city. In one, a neighborhood employment center is established in an existing settlement house, community center, or similar facility, with volunteer workers supervised by a project director or training specialist. In this center, service is emphasized but not restricted to the 45-64 age group. The other model is established in conjunction with an existing service--in Louisville, for example, in the YMCA. In this model, all operations subsequent to establishment of service are conducted by volunteer staff and emphasize service to the 65-plus age group. Volunteers receive a $2-per-day allowance for travel and lunches. Operation of the Sacramento project will begin in November. Louisville began service operations on October 3. On-site reviews indicate that project results will be useful in planning future out-reach services with volunteer staff.

. . . . . The Neighborhood Youth Corps, with the cooperation of representatives of the Employment Service and the Bureau of Apprenticeship and Training in Philadelphia, is referring disadvantaged youth to fill 200 jobs at the request of a firm in the area with a defense contract to manufacture water purification equipment for military hospitals in Vietnam. Preference in recruitment will be given to out-of-school Neighborhood Youth Corps enrollees. Job opportunities will involve combinations of the following occupational skills: blueprint reading, knowledge of basic mathematics, steel rolling, setting up of layouts, working with various machine tools, die-making, welding, sheet-metal work, and other similar activities. The youths will receive training upon entering on duty.

. . . . . The Opportunities Industrialization Center, a highly successful job training program for the unemployed in Philadelphia, will be extended to Erie and Harrisburg (Pa.), Oklahoma City, Menlo Park (Calif.), Little Rock, Roanoke (Va.), Seattle, and Washington, D.C. Through the cooperative efforts of the Office of Economic Opportunity, Department of Labor, Department of Health, Education, and Welfare, and the Ford Foundation, similar centers will be established in those areas. In the Philadelphia Center, long-time unemployed are given a basic education course, followed by intensive job training in skills needed in the community. Both day and night classes are offered, so that trainees can hold full or part-time jobs. The salient feature of the program is the "self-help" idea, with reliance placed on the individual's determination and drive to help himself. No training allowance is paid under the Philadelphia Center program, founded in 1964 by the Rev. Leon Sullivan, which has an 85 percent placement rate for those completing skill training.

Survey data were based on a specified week in April 1966. Preliminary data are now becoming available, but are, of course, inconclusive. Urgent needs are reported in areas that range from professional nurses to unskilled help, but a casual look at the returned questionnaires indicates that nurses are in shortest supply. The number of budgeted vacancies is not known as of this writing. When all the data are collected and interpreted, there will be a basis not only for planning but also for projecting needs in the hospital manpower field.

Hospital surveys form only part of the current efforts to improve health manpower. A "manpower intelligence facility," or information clearinghouse, has been established as a prototype health manpower data-bank at the University of Oklahoma. This venture, the first statewide one in the Nation, is the cooperative effort of 10 Oklahoma agencies and organizations, including the State Health Department, the State Medical Association, and the State Hospital Association. The project was motivated by the idea that centralized information would allow for better total community planning.

Elsewhere on the health manpower scene, recent PHS support has been given to prototype projects designed to improve the training and utilization of health manpower. One population segment with a high recruitment potential is that composed of women who wish to return to work after their children are grown but find that their professional skills are somewhat rusty and outdated. A refresher course could bring them up to current methods and standards so they could reenter the health manpower field.

For example, the latest information on women physicians indicates that there are now about 16,000 active and 2,600 inactive women physicians. To help alleviate the serious need in the physician field, women doctors are being retrained at the Presbyterian Medical Center in San Francisco. It is hoped that, if successful, this kind of program will not only restore inactive women doctors to their profession, but also encourage young women to choose medicine as a course of study by demonstrating the possibility of resuming a career after having a family.

Trained medical technologists also include a large number of occupationally inactive women. A contract has been awarded to the National Committee for Careers in Medical Technology to promote their return to employment. About 1,000 inactive "med techs" have expressed interest in working *if* they could be retrained and placed in laboratories.

Are there any new sources of health manpower? Some military corpsmen receive very sophisticated training; could they build on their already acquired skills and enter a civilian career that is based on their military training? Another demonstration project will test this possibility as the Presbyterian Medical Center in San Francisco begins training of such a group of ex-corpsmen to become orthopedic technicians.

Another approach to the critical shortage of health manpower is the development of a type of "mid-professional" group. At the University of Florida, a 2-year contract has been awarded for the design and evaluation of a program to train psychology assistants. College graduates, preferably those with sociology or psychology majors, will be selected without reference to recentness of graduation. This project will attempt to evaluate the ways in which a psychology assistant can help in various techniques and procedures involved in the psychological evaluation of individuals.

This young woman will soon be a doctor.

A clearinghouse is being established to make available the results of this manpower research.

Many additional and far-reaching needs for research in health manpower are obvious. It would be helpful to know how and why individuals choose health work as a career. A more pressing question is how to provide medical services in isolated rural areas from which highly trained people are migrating in increasing numbers. With the imminent formation of a Bureau of Health Manpower in the Public Health Service, continued emphasis on research, as well as programs that prepare individuals for health careers, is assured.

OJT

(*Continued from page 61*)

local and State levels to make their own "determinations of need" for training. Furthermore, such groups should become sufficiently involved in nonprofessional manpower training curricula so that they will be in a position to know whether a proposed training plan is "adequate."

The Department of Health, Education, and Welfare and the Department of Labor should make every effort to encourage the health industry to create career ladders, break down artificial professional barriers, establish uniform State licensing laws with more reciprocity agreements, innovatively train poor people for meaningful jobs, pay competitive wages, interact with Congress to increase appropriations for training, and become thoroughly involved in the decisionmaking process of legislation that affects the health of the Nation.

Requirements for Selected Health Occupations

BEATRICE ROSENBERG

Six health occupations were selected for this article to show the requirements for licensure or registration: registered professional nurse, licensed practical nurse, medical technologist, medical X-ray technician (radiologic technologist), occupational therapist, and physical therapist.

Nursing [1]

Each jurisdiction regulates the practice of nursing by law. Each State and territory appoints an authority—usually a board of nursing or of nurse examiners—to administer its particular nurse practice act.

Registered Professional Nurse

In all nursing programs for the registered professional nurse, schools require graduation from a high school or high school equivalency. The preferred candidate is one in the top half or third of the graduating class. Candidates with good academic ability and well-rounded interests are sought. In most schools the minimum age is 17 or 18. Students are required to be in good health. Some States require that the candidate for licensure be a citizen of the United States or an applicant for naturalization. In addition, references are usually required.[2]

Only graduates of a school approved by a State board (meets minimum requirements) are eligible to take the State examination to qualify for licensure to practice professional nursing—the RN.

To become an RN, completion of one of three programs—baccalaureate, diploma, or associate degree—is required in all States. These programs are explained in the chart on page 67.

Licensed Practical Nurse

Requirements for entering practical nursing are set by the individual school, which always meets the minimum State licensing requirements and often exceeds them. Graduation from high school is generally preferred. Students are accepted at age 17 or older and must be in good health. Most States require that the candidate for licensure be a citizen of the United States or an applicant for naturalization. In addition, references are usually required.[2]

Practical nursing courses usually last for 1 year. Only graduates of an approved school (meets minimum State requirements) are eligible to qualify for licensure to practice as a licensed practical nurse.

Medical Technologist

Registration is not required in this occupation, but some hospitals will employ only technologists who are certified.

To obtain certification from the American Society of Clinical Pathologists (ASCP) the prospective technologist must complete 3 years of undergraduate work, including courses in chemistry, biology, and mathematics, in any college or university approved by a recognized regional accrediting agency. After completion of 12 months specialized training in a School of Medical Technology approved by the American Medical Association (AMA), the student is usually awarded a bachelor's degree. (More than three-fourths of the 780 AMA-approved Schools of Medical Technology are affiliated with a college or university in a degree program so that students completing the training year receive

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Academic Requirements for Entrance to State-Approved Schools for Registered Professional Nurse and Licensed Practical Nurse

State	Registered professional nurse		Licensed practical nurse	
	Academic requirements	Programs offered in State-approved schools	Academic requirements	Programs offered in State-approved schools
Alabama	Law requires graduation from State accredited high school or equivalent; 16 units of credit required by the board.	BD ;D	Law requires graduation from State accredited high school or equivalent.	OP.
Alaska		NS	Law requires general education on 10th grade level	OP.
Arizona	Law requires graduation from approved high school or equivalent as determined by the board.	BD; D; AD	Law requires 2 years of high school or equivalent as determined by the board with advice of State Board of Education, if under 25 years of age. If over 25 years, completion of 8th grade, or equivalent as determined by the board with advice of State Board of Education.	OP.
Arkansas	Law requires graduation from high school or equivalency approved by board.	BD; D	Preference given to high school graduates but applicants may be accepted with 8th grade education or equivalent.	OP.
California	Law requires high school graduation or equivalent as determined by the board, including high school chemistry or a chemistry course (including laboratory practice) in a junior or 4-year college. If applicant does not meet this chemistry requirement, equivalent course in chemistry shall be completed before admission to major in nursing.	BD; D; AD	Law requires completion of 10th grade or equivalent	OP.
Colorado	Law requires high school graduation or equivalent	BD; D; AD	Completion of 10th grade or equivalent	OP.
Connecticut	Completion of college preparatory course in accredited high school is recommended. Must present certified transcript of secondary education. Recommended that candidates for admission to schools of nursing be required to achieve a composite score of 800 on CEEB–SAT.	BD; D; AD	Board requires accredited high school diploma or qualifying certificate on 12th grade level from the State Department of Education if the applicant is under 20 years of age; 2 years of high school (8 units) or equivalent if the applicant is 20 years or over.	OP.
Delaware	Board requires completion of 4 years of high school education, prior to entering the school of nursing.	BD; D	Board requires completion of 2 years of high school	HSE; OP.
District of Columbia	No requirement for high school graduation or equivalent. This is determination of individual school of nursing.	BD; D	Board requires completion of 2 years of high school or equivalent as determined by Commissioners of the District of Columbia.	HSE; OP.
Florida	Completion of at least approved 4-year high school course or equivalent.	BD; D; AD	Law requires completion of 2 years of high school or equivalent.	OP..
Georgia	Board recommends high school graduation with 15 units, including science and math. Selection policies formulated by individual schools of nursing.	BD; D; AD	Law requires 2 years of high school or equivalent	HSEA; OP.
Hawaii	Board recommends graduation from accredited high school or equivalent.	BD; D; AD	Board requires high school diploma or equivalent if under 25 years of age, or 8th grade or equivalent if over 25 years.	OP.
Idaho	Graduation from approved 4-year high school or equivalent. Determined equivalent is score of 45 or above on the General Education Development Test.	BD; D; AD	High school graduation or equivalent which is standard score of 45 or above in General Education Development Test.	OP.
Illinois	Graduation from high school or secondary school approved by the Department of Registration and Education, or equivalent as determined by examination conducted by the department.	BD; D; AD	Law requires completion of 2 years of high school or equivalent, or completion of 8th grade if over 25 years of age before July 1951.	HSE; OP.

See footnotes at end of table.

Academic Requirements for Entrance to State-Approved Schools for Registered Professional Nurse and Licensed Practical Nurse—Continued

State	Registered professional nurse		Licensed practical nurse	
	Academic requirements	Programs offered in State-approved schools	Academic requirements	Programs offered in State-approved schools
Indiana	Board requires graduation from accredited high school.	BD; D; AD	Board requires 2 years of high school or equivalent	OP.
Iowa	Graduation from accredited high school or equivalent as determined by the board.	BD; D; AD	Graduation from an accredited high school or equivalent as determined by the board.	OP.
Kansas	Graduation from accredited high school or equivalent, as determined by the board. Courses in mathematics, social science, biology, natural sciences, and home economics are recommended.	BD; D	Law requires 2 years of high school or equivalent if under 25 years of age; at least 8th grade or equivalent if over 25.	HSEA; OP.
Kentucky	General college preparatory course in high school is recommended. Students should rank in the upper half of graduating class, preferably in the upper third.	BD; D; AD	Law requires completion of 1 year of high school or equivalent; nursing schools require high school education for all candidates 25 years of age and under.	OP.
Louisiana	Schools of professional nursing require high school diploma; majority specify college entrance requirements. Recommend 17 high school units, including science and math.	BD; D; AD	Law requires grammar school education. Board regulation specifies 2 years of high school if under 25.	OP.
Maine	Board requires graduation from approved 4-year high school or equivalent.	BD; D; AD	Law requires 1 year of high school or equivalent, or, if over 30 years of age, completion of 8th grade or equivalent.	OP.
Maryland	Law requires high school equivalency. Schools of nursing determine admission policies and requirements.	BD; D; AD	Law requires 2 years of high school	HS; OP.
Massachusetts	Board requires graduation from accredited high school or equivalent.	BD; D; AD	Board requires 10th grade education or equivalent	OP.
Michigan	Law requires high school graduation or equivalent	BD; D; AD	Law requires completion of 8th grade or equivalent	OP.
Minnesota	Law requires high school graduation or equivalent	BD; D; AD	Law requires completion of 8th grade or equivalent	OP.
Mississippi	Board of trustees of the State institutions of higher learning recommends graduation from high school.	BD; D; AD	State Department of Education recommends 10th grade education or equivalent. High school graduation is preferred.	HS; HSE; OP.
Missouri	Law requires graduation from approved 4-year high school or equivalent as determined by State Board of Education.	BD; D; AD	Law requires 2 years of high school or equivalent as established by State Board of Education.	HSE; OP.
Montana	Law requires high school graduation. Board recommends preference to candidates with a college preparatory course for science.	BD; D	Law requires 2 years of high school or equivalent	OP.
Nebraska	Law requires graduation from high school or equivalent. Board recommends graduation from approved or accredited high school with courses in science and math.	BD; D	Law requires 2 years of high school or equivalent; 8th grade graduation for those over 40 years of age.	OP.
Nevada	Baccalaureate degree program: High school graduation with 15 units: English, 3; math, 1; biology, chemistry, or physics, 1; social science, 1. Associate Degree Program: Graduation from high school program meeting University of Nevada scholarship admission requirements of 16 acceptable high school units and minimum overall 4-year grade of C. High school chemistry and biology helpful. Applicant must pass entrance examination and meet general admission requirements of University of Nevada.	BD; AD	Law requires 2 years of high school or equivalent	OP.

New Hampshire	Board requires high school graduation or equivalent	BD; D	Law requires 1 year of high school or equivalent and other qualifications board may prescribe.	OP.
New Jersey	Law requires graduation from 4-year accredited high school with number of credits set by the Department of Education (76 credit points or 15 Carnegie units).	BD; D; AD	Law requires 2 years of high school or equivalent	HSE; HSEA; OP.
New Mexico	Law requires completion of 4-year high school or equivalent as determined by the board.	BD	Board recommends completion of high school	OP.
New York	Law requires completion of 16 units (4 years) in registered high school, including a minimum of 10 units in academic subjects, or equivalent as determined by Commissioner of Education.	BD; D; AD	Regulations of Commissioner of Education require 8th grade education or equivalent.	HS; HSA; HSE; HSEA; OP.
North Carolina	Board requires graduation from accredited high school	BD; D; AD	Law requires completion of 9th grade or equivalent	OP.
North Dakota	Law requires high school graduation with 16 units or equivalent. Board recommends inclusion of math and science (preferably biology and chemistry).	BD; D	Law requires 8th grade education or equivalent. By board recommendation, schools give preference to high school graduates.	OP.
Ohio	Law requires graduation from accredited high school or equivalent. Board requires 15 units, including math, science, and 1 unit of American history.	BD; D; AD	Board requires completion of 10th grade or equivalent	HSE; OP.
Oklahoma	Board recommends graduation from 4-year high school or equivalent.	BD; D; AD	Law requires 2 years of high school or equivalent	OP.
Oregon	Law requires high school graduation	BD; D	Law requires high school graduation or equivalent	OP.
Pennsylvania	Law requires completion of standard 16-unit 4-year high school course, as evaluated by Department of Public Instruction. Requirements include chemistry or physics, American history, and health and physical education.	BD; D; AD	Law requires 8 years of education in public, parochial, or private school, or equivalent as evaluated by the Department of Public Instruction. Completion of high school is recommended.	HSA; HSE; OP.
Rhode Island	Required high school graduation; in unusual instances, high school equivalency test may be substituted subject to approval of board.	BD; D	Board requires 2 years of high school or equivalent	OP.
South Carolina	Law requires graduation from accredited high school	BD; D; AD	Law requires 2 years of accredited high school or equivalent.	OP.
South Dakota	Board requires graduation from approved 4-year high school or equivalent as determined by appropriate educational agency.	BD; D; AD	Board requires 4 years of high school, or passing of General Education Development Test.	OP.
Tennessee	Law requires accredited high school diploma or equivalent as determined by the board.	BD; D; AD	Law requires 8th grade education or equivalent and other requirements board may prescribe.	OP.
Texas	Board requires graduation from a 4-year accredited high school.	BD; D; AD	Law requires 2 years of high school or equivalent	HSE; OP.
Utah	Completion of approved high school or equivalent as determined by the board.	BD; D; AD	Two years of high school or equivalent as determined by board.	OP.
Vermont	Completion of approved 4-year high school or equivalent.	BD; D; AD	Law requires 4 years of high school or equivalent	OP.
Virginia	Required high school graduation with 12 academic units plus 2 in home economics. Board recommends inclusion of science, math, and one foreign language.	BD; D; AD	Law requires completion of elementary grades or equivalent. Majority of schools require from 2 to 4 years of high school.	HSA; HSE; HSEA; OP.
Washington	Law requires approved high school diploma or equivalent.	BD; D; AD	Law requires completion of 10th grade or equivalent	OP.
West Virginia	Completion of approved 4-year high school or equivalent as determined by appropriate educational agency.	BD; D; AD	Law requires 9th grade of school or equivalent	OP.
Wisconsin	Graduation from high school with 16 units, including math and science.	BD; D; AD	Law requires 2 years of high school (8 credits) or the equivalent. High school graduation is required of persons in their teens.	OP.
Wyoming	Law requires completion of approved 4-year high school or equivalent as determined by appropriate education agency.	BD	Law requires 2 years of high school or equivalent and other qualification requirements board may prescribe.	OP.

See footnotes at end of table.

Academic Requirements for Entrance to State-Approved Schools for Registered Professional Nurse and Licensed Practical Nurse—Continued

State	Registered professional nurse		Licensed practical nurse	
	Academic requirements	Programs offered in State-approved schools	Academic requirements	Programs offered in State-approved schools
Puerto Rico	Diploma from 4-year scientific course in high school recognized by the Department of Education.	BD; D; AD	Law requires an 8th grade or junior high school diploma or certificate issued by Department of Education or accredited school or equivalent in academic training, as shown through ability test taken before competent personnel appointed by the Department of Education.	OP.
Virgin Islands	Completion of approved 4-year high school or equivalent as determined by the Department of Education.	AD	Applicants under 25 years of age must have 2 years of high school or equivalent. Applicants over 25 years must have 8th grade education or its equivalent.	HS; HSEA; OP.
American Samoa		NS	High school graduation	OP.

BD—Baccalaureate degree, in senior college or university. Usually 4 academic to 4 calendar years in length; offers college education with a major in nursing.

D—Diploma, in hospital or independent school of nursing. Usually a 3-year program, though many diploma programs now prepare for practice in shorter periods of time. (Graduates of diploma programs who wish to study for baccalaureate degrees in nursing must fulfill degree requirements of senior college or university both in liberal arts subjects and in nursing major. College or university selected decides whether credits or advanced standing will be granted for previous nursing education. Any college credits in general education are usually transferable.)

AD—Associate degree, in a junior, community, or senior college. Usually 2 academic to 2 calendar years in length. (The general education courses taken in associate degree programs are usually transferable to any senior college should the graduate wish to study for a baccalaureate degree. The nursing courses may or may not be granted advanced standing in accordance with the policies of the admitting institution.)

NS—No schools of professional nursing.

HS—Program conducted as part of a high school course.

HSA—Program conducted as part of high school course which admits other than high school students.

HSE—High school extended (begun as part of high school course and concluded after high school graduation.)

HSEA—HSE programs which admit adult education students.

OP—Programs offered in hospitals, vocational and technical schools, junior colleges, universities, other schools of practical nursing or vocational nursing, and programs established under the Manpower Development and Training Act.

Source: Data were obtained from the National League for Nursing, 10 Columbus Circle, New York, N.Y. 10019, State boards of nursing, and individual schools. For more specific data, inquiries should be directed to these sources.

a baccalaureate degree from the college.) Graduates may take the national examinations given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists. On passing these examinations, the applicant is certified as an MT (ASCP).

Licensure is required in Alabama, California, Florida, Hawaii, Puerto Rico, and New York City. Examinations are given by the Department of Health.

In Alabama, examinations are given for licensure of "laboratory technicians" who have trained in AMA-approved schools.

In California, only licensed persons may work in medical laboratories. The minimum requirement for employment at the lowest level in the medical laboratory is a bachelor's degree plus at least 6 months of laboratory internship, or AMA-approved training with a baccalaureate degree.

In Florida, those who work in laboratories not under the supervision of physicians must be licensed by examination. No license is required if the technologist works under an MD.

Hawaii and Puerto Rico [3] license laboratory workers by examination, but medical technologists with AMA-approved training do not have to take the examination.

In New York City, all laboratory workers must be licensed by examination or receive a certificate of qualification which is granted to those with AMA-approved training or equivalent.

Medical X-Ray Technician (Radiologic Technologist)

Training in X-ray technology is offered by vocational or technical schools as well as approved hospital schools. While students who complete this training may become technicians, many hospitals, laboratories, and clinics require applicants for employment to be registered or eligible for registration with the American Registry of Radiologic Technologists.

Registration requirements [4] include graduation from a school of X-ray technology approved by the AMA. An applicant for entrance to an AMA-approved school must be a high school graduate. After completion of the course, which usually takes 24 months, graduates are eligible to take the examination for registration with the American Registry of Radiologic Technologists. Those who pass the examination may use the title Registered Technologist (AR–RT). Registered Technologists may practice in any State. New York is the only State requiring licensing for technologists, but out-of-State RT's need not take the New York State licensing examination to practice in New York.

Occupational Therapist

Although registration is not required, the great majority of occupational therapists are registered.

The minimum requirement [5] for entry into this profession is 4 years of college training leading to a degree from a school accredited by the AMA and the American Occupational Therapy Association. Upon graduation and completion of 9 to 10 months of clinical practice, therapists are eligible to take the national registration examination given by the American Occupational Therapy Association. Those who pass this examination may use the title OTR Occupational Therapist Registered.

Physical Therapist

All States except Texas and Missouri, the District of Columbia, and Puerto Rico require licensing for physical therapists.

The minimum requirements [6] for a physical therapist are graduation from high school plus completion of one of the three programs offered by approved schools of physical therapy: 4-year bachelor's degree courses for high school graduates; 12-months' certificate courses for those with bachelor's degree; and graduate training for a master's degree for those with bachelor's degree and requisite background. Those with a degree or certificate from an approved school of physical therapy are eligible to take the State board examination.

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[1] The Women's Bureau is preparing a State-by-State report of requirements for registered nurses and licensed practical nurses.

[2] For information on citizenship or references, individual State boards must be contacted.

[3] These jurisdictions give examinations to applicants who have taken laboratory courses in other than AMA-approved schools.

[4] According to the American Society of Radiologic Technology, 537 South Main Street, Fond du Lac, Wis., 54935.

[5] According to the American Occupational Therapy Association, 250 West 57th Street, New York, N.Y., 10019.

[6] According to the American Physical Therapy Association, 1790 Broadway, New York, N.Y., 10019.

ES SURVEYS

(*Continued from page 32*)

300 nurse aides/orderlies and 60 licensed practical nurses. On-the-job training will be provided for the staffing of a new facility for the mentally retarded.

One of the major purposes of the survey was to provide data for planning regional health career training centers. Plans are progressing for a health education center in the northwestern section of the State to serve parts of South Carolina, North Carolina, and Georgia.

The survey report has been distributed widely to the State's health facilities, legislators, vocational training facilities, colleges, libraries, employment counselors, and high school counselors. *The State,* South Carolina's largest newspaper, promoted public awareness of the critical shortages of workers in health occupations through a feature article on the findings and recommendations in "Manpower Requirements For Health Facilities in South Carolina," especially the recommendation for the Governor's Health Manpower Council. This council will play a vital role in resolving the manpower shortages through its major function described as "getting everybody to pull together in the same direction."

JOHN MARSHALL
and HUBERT L. REEVES

MDTA Trains for Health Services

The health of the people is really the foundation upon which all their happiness and all their powers as a State depend.—Disraeli

Many health occupations offer excellent training and employment opportunities for unemployed persons with relatively little skill and education.

By the end of June 1966, more than 40,000, or about 12 percent, of the 346,400 persons trained in MDTA institutional courses since September 1962 had enrolled in training for the health field. Almost half (48 percent) of the enrollees in health occupations have been in the most heavily populated States of California (7,000), New York (5,000), Michigan (4,100), and Illinois (3,600). These four States accounted for only 28 percent of all MDTA trainees over the same period. Six other States—Pennsylvania, Ohio, Missouri, South Carolina, Massachusetts, and New Jersey—each had between 1,000 and 2,000 trainees in health occupations.

Of the institutional health training courses offered, 52 percent have been in service occupations, 46 percent in semiprofessional—including refresher courses for professionals, and 2 percent in clerical occupations. More than 75 percent formerly held service, clerical and sales, or unskilled jobs, and 9 percent had no previous work experience.

Slightly more than half of the white but only 36 percent of the nonwhite enrollees were receiving instruction in semiprofessional occupational categories. Conversely, almost two-thirds of the nonwhite, but less than half of the white, trainees were preparing for service jobs in the health field.

Profiles of courses that are typical of MDTA institutional training that has been offered in health occupations follow:

Nurse Aide

Median duration of training	5 weeks
Median length of instruction	146 hours
Prior education required	8–10 years

Shorter courses cover only basic general aide training. Somewhat longer courses may include classes in orientation to psychiatric nursing, care of the aged patient, pre- and postoperative care, isolation techniques, and nutrition. Instruction includes both classroom and practical on-duty experience in hospital wards.

Nurse, Licensed Practical

Median duration of training	50 weeks
Median length of instruction	1,804 hours
Prior education required	10 years

Generally, classes consist of preclinical institutional training in: body structure and function, nutrition, nursing skills, and clinical training, usually in obstetrical, pediatric, and geriatric nursing. Courses are designed so that graduates will have the necessary knowledge to pass the State board examination for licensed practical nurse.

John Marshall and Hubert L. Reeves are Manpower Research Analysts in the U.S. Employment Service.

Laboratory assistant.

Dental assistant.

Nurse, Professional (Refresher)

Median duration of training ---------- 6 weeks
Median length of instruction ------ 180 hours
Prior education required ---- registered nurse

Length of training is determined on the basis of the enrollee's nursing experience, period of time inactive, and specific requirements of hospitals. Emphasis is placed on new techniques, equipment, and procedures. Training consists of lectures and classroom work in conjunction with clinical observation and practice.

Psychiatric Aid

Median duration of training-------- 13 weeks
Median length of instruction ------ 455 hours
Prior education required --- no requirement

Trainees Enrolled In MDTA Institutional Courses in Health Occupations, September 1962 through June 1966

Occupation [1]	Enrollment
Total	40,714
Dental Assistant	786
Dental Hygienist	21
Dental Laboratory Technician	161
Electrocardiograph Technician	9
Electroancephalograph Technician	8
First Aid Attendant	20
Home Health Aide	453
Child Care Attendant	104
Cottage Parent	34
Inhalation Therapist	78
Medical Assistant	59
Medical Laboratory Assistant	507
Medical Record Technician	76
Nurse Aide/Orderly	18,101
Nurse, Practical Licensed	15,614
Nurse, Professional (Refresher)	1,847
Occupational Therapy Aide	131
Optometrist	1
Orthoptist	78
Physical Therapist	159
Physical Therapy Attendant	17
Psychiatric Aide	1,570
Radiation Monitor	40
Radiologic Technologist	116
Surgical Technician	638
Hospital Maid	86

[1] As classified in the *Dictionary of Occupational Titles*, 3rd edition.

Source: USES and State Employment Services.

Since prior education is not usually a prerequisite, basic education components are frequently included in the courses. Trainees are instructed in ward or cottage housekeeper duties, basic nursing skills, and how to develop and maintain a sympathetic attitude toward the mentally ill.

Dental Assistant

Median duration of training ---------- 39 weeks
Median length of instruction ---- 1,300 hours
Prior education required ---------- 12 years

Instruction for this occupation is in two phases—academic studies and dental laboratory skills in the classroom and performance of duties under direct supervision of a dentist or dental hygienist. Enrollees also learn to keep records of treatments administered by the dentist, prepare monthly statements for patients, schedule appointments, and order dental supplies.

Surgical Technician

Median duration of training ---------- 36 weeks
Median length of instruction ---- 1,200 hours
Prior education required ---------- 12 years

Trainees are taught how to prepare a patient for surgery, assist the operating team in preparing for an operation, maintain necessary medical supplies used during surgery, and assist in the administration of injections and transfusions. Surgical technicians are also instructed in the use of retractors and cutting of sutures, as directed by a surgeon during an operation.

Medical Laboratory Assistant

Median duration of training, 52 weeks
Median length of instruction, 2,080 hours
Prior education required, 12 years

Previous training in chemistry and biology is preferred. Enrollees are trained to perform simple medical laboratory tests, make blood collections, prepare standard test solutions and media, use various laboratory equipment and apparatus, and understand asepsis and sterilizing techniques.

Placement and Employment

Placement and employment rates were slightly higher for graduates of MDTA courses in health occupations than for graduates of all institutional training:

	Percent of graduates
Some employment since graduation:	
All MDTA courses	89.0
Health courses	91.0
Nurse, licensed practical	89.0
Psychiatric aide	86.0
Dental assistant	84.0
Nurse aide/orderly	71.0
Nurse, professional (refresher)	58.0
Employed at time of last contact: [1]	
All MDTA courses	75.0
Health courses	77.0

[1] Up to a year after training was completed.

Trainee Earnings

While the proportion of nonwhites with average hourly earnings of $1.25 and over increased considerably after completion of health courses, the increase among whites was much greater.

Average hourly earnings	*After training*	*Before training*
	(*Percent*)	
Total		
Under $1.25	28	51
$1.25–$1.99	63	42
$2.00 and over	9	7
White Trainees		
Under $1.25	23	48
$1.25–$1.99	66	43
$2.00 and over	11	9
Nonwhite Trainees		
Under $1.25	36	54
$1.25–$1.99	59	40
$2.00 and over	5	6

Only 72 percent of the health training graduates earn $1.25 or more per hour, compared with 87 percent of all MDTA graduates. This situation may be expected to improve, however, with the recent extension of coverage under minimum wage legislation to hospital employees.

On-the-Job Training Under MDTA

On-the-job training is given by employers, with the Federal Govern-

ment reimbursing the employer for instructor fees and instructional materials only. Trainees receive wages, paid by the employer, during the period of training and are nearly always assured of a job on completion of training.

From February 1963 through June 1966, on-the-job training in health establishments had been approved for over 13,000 unemployed or underemployed persons in such occupations as: Professional nurse (refresher); nurse aide; housekeeper, maid, porter; dietary aide, cook, assistant cook; orderly, ward attendant; ward clerk; psychiatric and therapy aide; surgical, dental, optical, and X-ray technician; hospital office worker; medical laboratory assistant.

In response to the need for workers in the health field, approvals for on-the-job training in health occupations increased 76 percent in fiscal year 1966 over fiscal year 1965.

On-the-job training has also been approved for another 3,100 persons to be assigned by the American Hospital Association in jobs throughout the country.

Experimental and Demonstration Training

Several special projects under the MDTA have been conducted or are being planned to train persons in health occupations. Currently underway is a program to train a minimum of 400 disadvantaged men and women to be certified laboratory assistants. This is being conducted by the National Committee for Careers in Medical Technology.

Beth Israel Medical Center is training 60 disadvantaged adults in New York City's Lower East Side as social service technicians—to work as health visitor, patient relations manager, and personnel or social service aide—and home care technicians.

A project is being developed to recruit, counsel, train, and place from 2,500 to 7,500 disadvantaged persons in nonprofessional health skills and, by creation of ladders of advancement from lower to higher skills, give inservice training for advancement. Depending on funds allotted, this may be a two-city or six-city program.

Characteristics of Trainees Enrolled in MDTA Institutional Health Occupation Courses and of all MDTA Institutional Trainees, September 1962 Through June 1966

[*Percent Distribution*]

Characteristic	Trainees enrolled in health occupations			All trainees enrolled in MDTA institutional projects		
	Total	Male	Female	Total	Male	Female
Sex—total	100.0	.....	.....	100.0	.....	.....
Male	10.0	.....	.....	59.9	.....	.....
Female	90.0	.....	.....	40.1	.....	.....
Race—total	100.0	100.0	100.0	100.0	100.0	100.0
White	65.4	52.5	66.8	68.2	72.3	62.1
Nonwhite	34.6	47.5	33.2	31.8	27.7	37.9
Age (years)—total	100.0	100.0	100.0	100.0	100.0	100.0
Under 19	12.0	9.2	12.3	14.9	14.6	15.4
19 to 21	19.4	25.3	18.7	23.3	23.7	22.6
22 to 34	33.6	45.0	32.4	35.2	37.8	31.2
35 to 44	20.3	12.1	21.2	16.2	14.6	18.8
45 and over	14.7	8.4	15.4	10.4	9.3	12.0
Education (grades)—total	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8	1.7	2.5	1.6	6.6	8.9	3.1
8th	4.6	5.3	4.6	9.3	11.9	5.4
9–11	29.9	33.7	29.5	33.6	36.1	29.8
12th	54.2	48.5	54.8	44.0	37.7	53.4
More than 12	9.6	10.0	9.5	6.5	5.4	8.3
Wage earner status	100.0	100.0	100.0	100.0	100.0	100.0
Primary	48.4	72.7	45.7	60.7	70.1	46.5
Other	51.6	27.3	54.3	39.3	29.9	53.5
Labor force status prior to enrollment—total	100.0	100.0	100.0	100.0	100.0	100.0
Unemployed	81.0	87.3	80.3	87.7	88.3	86.9
Family farm worker	0.3	0.2	0.3	1.7	2.6	0.3
Reentrants to labor force	5.8	0.5	6.4	2.1	0.6	4.4
Underemployed	12.9	12.0	13.0	8.5	8.5	8.4
Duration of unemployment—total	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	28.4	31.5	28.0	32.0	36.3	25.4
5 to 14 weeks	18.1	28.2	16.9	23.7	26.9	18.9
15 to 26 weeks	11.7	16.3	11.1	13.4	13.8	12.6
27 to 52 weeks	11.2	11.4	11.2	10.9	10.2	12.0
Over 52 weeks	30.6	12.6	32.8	20.0	12.8	31.1

Source: USES and State Employment Services.

A combined work-training program, consisting of 20 hours of work and 25–30 hours of classroom, laboratory, and clinical training a week, is being developed for licensing as practical nurses in an effort to upgrade nurse aides in the New York municipal hospital system.

About 300 inactive registered nurses will be given refresher training in an experimental project to develop an instructional system, sponsored by Mohawk-Hudson Council on Educational Television of Sche-

(*Continued on page 78*)

Cleveland's MDTA Project For Hospital Workers

FREDERICK TAYLOR

In Cleveland, as elsewhere, the shortage of hospital workers, which has been viewed with great concern for some time, was intensified in view of the anticipated impact of Medicare. All interested parties were also concerned with the heavy rate of unemployment that existed within the inner city, particularly in areas where the majority of residents were Negro.

With these problems in mind, a series of meetings was started in December 1965, in the Cleveland offices of Congressman Charles A. Vanik, with local agencies most involved with the situation. These included the Cleveland Hospital Council (representing 48 area hospitals), the Cleveland Board of Education, and the Ohio State Employment Service. Also involved were representatives of the Economic Development Administration, the Federal agency responsible for approving training projects under section 241 of the MDTA.

This series of meetings culminated with the decision to prepare a bold proposal to train a large number of unemployed Cleveland residents in hospital and related occupations. The Hospital Council surveyed its membership to determine the most suitable occupations, giving equal consideration to the needs of the hospitals and the needs and abilities of the unemployed residents of the area.

The Cleveland Board of Education, working with specially organized advisory committees, began the arduous task of developing curricula, locating facilities, and hiring instructors.

In addition to preparing the training proposals, the Cleveland offices of the Ohio State Employment Service Division began to map the necessary plans to recruit trainees.

On March 16, 1966, less than 3 months after the initial meeting, local agencies were notified that the project had been approved and funded at an estimated cost of $2.4 million to train 1,272 persons in 13 selected hospital and related occupations.

The training consists, generally, of three primary phases: orientation, institutional or clinical training, and remedial education. These are utilized according to the demands of the occupation and the needs of the trainees. Occupations concerned primarily with patient services are largely conducted in participating hospitals under hospital and Board of Education supervision. Other occupations (mostly clerical) are handled in the modern facilities of

A nurse aide takes a patient's temperature under the supervision of a registered nurse.

Frederick Taylor is Manpower Development Coordinator, Cleveland Metropolitan Offices, Ohio State Employment Service.

the Manpower Training Center, an institutional training facility operated exclusively for MDTA trainees by the Cleveland Board of Education. Orientation and remedial education (for those who need it) are also provided through the Manpower Training Center.

Since the project was funded under section 241 of the MDTA, recruitment of trainees is limited to residents of the city of Cleveland, originally designated as a redevelopment area by the Economic Development Administration. The Employment Service prepared and, with the assistance of a large number of neighborhood organizations, distributed several thousand pieces of informational literature concerning the project. Local television, radio, and newspaper facilities provided extensive publicity for the project. On-the-spot interviews were conducted in Cleveland's predominately Negro, Hough area. These recruitment methods have been continued since the project began.

Candidates are screened by the Ohio State Employment Service against requirements for each occupation, as provided by the Hospital Council. In consideration of the persons for whom the project was designed, local hospitals, wherever possible, relaxed previously rigid requirements on age and education. Through intensive counseling and selective use of testing, local ES offices have been identifying suitably qualified unemployed and underemployed persons for training.

The project got underway on April 11, 1966, with the first two classes. One of these, for nurse aides, was completed on June 17, 1966, with eight graduates. Six were employed immediately by local hospitals. The other, for nursing unit clerks, ended July 1, 1966, 15 of 17 graduates placed.

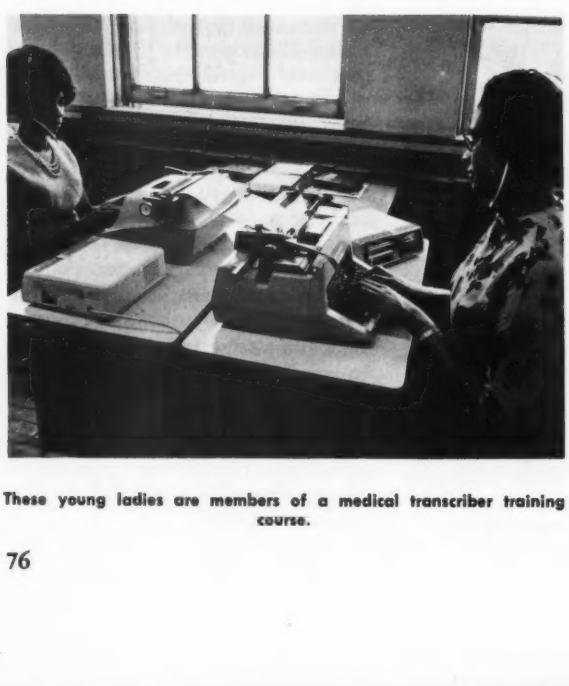
Since then, two more nurse aide classes and one additional nursing unit clerk class have started. Also underway are courses for housekeeping supervisor, custodial worker, medical transcriber, general clerk, psychiatric attendant, laundry worker, dietary aide, main course cook, and homemaker.

Classes in the other two occupations—orderly and food service supervisor—are expected to begin shortly.

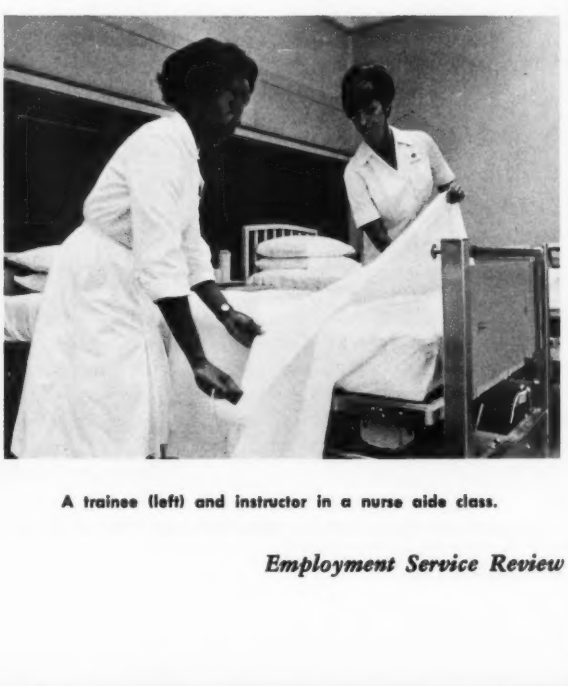
As of August 22, 1966, there had been a total of 347 persons enrolled in 17 separate classes, covering 11 project occupations. Although the project is geared to train both men and women, the enrollment has been 93 percent female. The trainees range from 18 to 68 years of age, the majority being between 25 and 40. The range of education varies from 8th grade in some courses to high school graduates in others. About 30 percent of the trainees have been high school graduates; 45 percent have completed the 10th or 11th grade; and the remaining 25 percent have completed the 8th or 9th grade. Negroes constitute approximately 75 percent of the total enrollment.

Despite many difficulties, the project is off to an excellent beginning. The most significant factor in the development and implementation of this unique plan has been cooperation. In an effort to approach an old and growing problem with originality, the combined resources and vigorous energies of local "action" groups have proved exemplary.

It is, perhaps, only a beginning but, hopefully, a beginning which will stimulate continuity in the development of solutions to the problems of rapidly expanding health services in Cleveland.



These young ladies are members of a medical transcriber training course.



A trainee (left) and instructor in a nurse aide class.

MDTA Project For Trained

Child Care Specialists

GERALD GRUBER

Concern about the lack of personnel trained in the area of children's services, especially for institutionalized children, led to a new approach to training child-care personnel in Nebraska which was the first program of its kind in the Nation. Sponsored under the MDTA, students were trained in hour-to-hour care of emotionally disturbed, mentally retarded, physically handicapped, and culturally disadvantaged children under a new concept oriented toward the overall care of the child rather than concentration on specific areas.

The successful development and implementation of this program can be attributed to the cooperative efforts of the State Department of Institutions, the Nebraska Division of Employment, the State Department of Vocational Education, and the Nebraska Psychiatric Institute (NPI), which handled the training of the students. Dr. Richard Cohen, Director of Childrens' Services, NPI, who was most instrumental in guiding this program, envisions a new career field in the area of child care and believes that graduates of this 12-month program should be placed in jobs on a semiprofessional basis. It is generally recognized that salaries in this occupation have been very inadequate and, consequently, it has often attracted workers with little skill, knowledge, and ability. It is believed that, through education and training, better qualified employees will be available and employers will be willing to pay wages more consistent with qualifications for the job.

The curriculum for this yearlong training program which has been divided into two parts of 6 months each, has three divisions: (1) Classroom instruction, (2) small group and individual instruction, and (3) field assignment. The classroom instruction is in three major areas: (*a*) Principles of normal child development, (*b*) principles of professional practice in institutions, and (*c*) observation and recording of child behavior. Throughout the entire program, there were numerous lecture seminars and special guest presentations. In the second division, instruction was concerned with individual and group discussion of questions that arose during the course of the program. The program coordinator spent considerable time with each trainee to integrate his learning experience and evaluate his progress.

During the first 6 months of training, field trips to child-care agencies gave each student the opportunity to observe various agency methods and services. During the second 6-month period, all students had some work

Trainees, left and right, meet with Mrs. Preston, project coordinator, Nebraska Psychiatric Institute (seated), and Mrs. McElligott, MDTA coordinator, Omaha local ES office.

Gerald Gruber is State MDTA Supervisor, Nebraska Division of Employment.

experience in a minimum of three agencies, with observation in several more.

The major portion of the second 6-month period, the third instructional division, was devoted to field assignments under close supervision of the program coordinator. Each trainee spent approximately 24 hours per week for 2- or 3-week periods in each of various institutions and agencies providing services for children. The degree of involvement at each field assignment depended on the readiness of the student and the possibilities within the particular agency. Numerous public and private agencies participated and supported this phase of the training.

The class started in October 1965 with 25 trainees. Preliminary screening, selection, and referral were handled by the Omaha office of the Nebraska Division of Employment in cooperation with the program coordinator.

What kind of individuals were enrolled in this training? A majority were women; educational levels varied from less than high school through 1 year of college. However, most of the trainees were high school graduates. Prior work experience included unskilled laborer, truckdriver, nurse aide, sales clerk, receptionist, and bartender. Ages varied from 19 to 50.

Of the 25 individuals enrolled, 18 completed the yearlong program. Seven trainees dropped from the program because of health, financial difficulty, lack of progress, and other miscellaneous reasons. Seven trainees accepted permanent jobs directly related to the training, just prior to completion of the course. In addition, four trainees have definite employment commitments immediately following graduation.

One of the more successful trainees is a 30-year-old man who was an unemployed father of five, a member of a minority group, and had completed only the 10th grade. His primary occupation was light-truck driver, which paid approximately $1.40 per hour, when employed. In his youth, he had been a local prizefighter and enjoyed working with young people. He worked exceptionally hard during the classroom training period and, as a result of several field assignments, he decided he liked working with culturally deprived youngsters. He has accepted a position with the Douglas County Youth Center, where he will have ample opportunity to work with young people, especially those with needs that he well understands. Reports indicate that this man is very happy in his new field of work, is supporting his family, and is accomplishing remarkable results with youngsters.

Prospects for the other trainees appear to be bright. Most of the students are seeking work in an agency which provides the type of services in which they have the most interest and training. Job opportunities include work in various State institutions—particularly in children's services, special education programs, Project Head Start, youth centers, day care centers, Boys' Clubs, and private agencies.

Needless to say, the State of Nebraska is very happy to have been instrumental in developing and operating a program which is both meeting a critical skill shortage and providing a training opportunity for the unemployed. A training program such as this involves a close relationship among various governmental and private agencies; in this respect, Nebraska agencies are meeting the challenge.

TRAINING ACTIVITIES

(*Continued from page 74*)

nectady, the Department of Nursing of Russell Sage College, Nurse Board Office of the New York State Education Department, and New York State Health Department Office of Nursing.

On-the-job training for 32 weeks was given to 40 youths ages 16–21 to demonstrate methods and procedures for identifying and training youths for employment in health agencies, schools, and rehabilitation centers for mentally retarded children, as assistants to teachers, physical and occupational therapists, nurses, and physicians.

Characteristics of MDTA Trainees Enrolled in On-the-Job Training Projects August 1962–June 1966

Characteristic	Percent distribution
Race:	100
White	69
Nonwhite	31
Sex:	100
Female	84
Male	16
Age:	100
Under 19	13
19–21	20
22–34	30
35–44	18
45 and over	19
Education:	100
Less than 8 years	5
8	8
9–11	29
12	45
More than 12	13

Percent distribtution based on total reporting for each item.

In Pittsburgh, 30 young persons—unemployed or underemployed, aged 17–22—received training as research laboratory technician beginners in a project emphasizing methods of reaching trainees through their families. The Board of Public Education provided the 12-week prevocational course of basic education and vocational training, while the local Employment Service aided in recruiting, testing, and placement activities.

To demonstrate that severely disadvantaged persons could become qualified for employment as supervisory aides, 12 unemployed persons with little skill and education were trained for sheltered workshops and day-care centers for the handicapped. They were selected according to an appropriate personality pattern and attitude toward the handicapped and trained on the job, with supervision by the Jewish Vocational Service of Milwaukee.

Fifteen disadvantaged youths from the south side of Chicago were placed for the summer in medical laboratories to develop experience for possible careers in biochemistry. Contractor for the project was a committee affiliated with the University of Chicago. The project was part of a large program to provide employment and leadership in self-help by stimulating community concern.

A Growing Crisis . . .

Manpower in Maryland's Hospitals[1]

In July 1966, the Manpower Development Committee of the Hospital Council of Maryland released the findings of its survey undertaken in January. To some extent, the survey underlined the obvious, but it also yielded more exact information about the extent of the problem and added considerable new information about paramedical training.

The most critical shortage is for nursing personnel—schools of nursing in Maryland are not producing enough nurses to meet the demand, nor is the quality of training always of the highest. The next most critical need is for laboratory personnel; only two programs in Maryland lead to a degree and certification, and more are needed.

In the fields of nursing (registered and practical), medical technology and laboratory technician, X-ray technology, and medical records, the potential number of students that can be accepted is always larger than the actual number enrolled. This does not mean that no new programs should be developed, because many factors—geographic and otherwise—tend to limit the number of students that will enroll in any one program. It does mean, however, that attempts should be made to attract more students in these fields. The limiting factor is not the schools per se.

Why the Manpower Shortages?

Some answers to the question are self-evident—high employment generally, keen competition for workers, rapid growth of demand for health services, rapidly increasing scope of available health services, leading to an ever-wider range of special skills needed by hospitals.

All of these reasons are not sufficient, however, to account for the acute shortages of the present day. Aside from low salaries and unattractive working conditions, a number of built-in factors tend to discourage young people from going into health careers and pose problems at all levels of hospital employment.

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[1] *Hospital Council of Maryland, Inc., 10 South Street, Baltimore, Md. 21202, July 1966.*

(1) Hospitals are highly profession-oriented. To move from one step of the promotional ladder to another frequently requires completion of an educational program which may be economically impossible for many well-motivated and well-qualified employees.

(2) Hospitals are predominantly staffed by women, contributing to turnover as a result of marriage and family responsibilities, including transfer of husbands.

(3) A built-in factor which contributes to the personnel shortage, particularly in nursing, is improper utilization. Representatives of nurses organizations and the State Board of Nurse Examiners are firm in their belief that better utilization of nurses in hospitals would do much to relieve the shortage. One representative went so far as to state that 75 percent of the shortage was the result of improper utilization. The correct figure may be impossible to determine, but no one denies the existence of improper personnel utilization.

It is clear that a number of the above circumstances are facts of life for the hospitals, but it is equally clear that some of the built-in shortcomings can and must be tackled with great determination if the manpower shortage is to be alleviated.

The Educational Effort

Although hospitals have been intensively involved in educational programs for years, not all medical and paramedical education is in the hospital. A great deal is done in the schools and colleges, and there appears to be a trend in the direction of more paramedical education in the colleges and probably less in the hospitals.

Most of Maryland's educational programs are not operating at full capacity. Some directors of schools of nursing stated that the number of qualified applicants seems to be decreasing, partly as a result of the increasing numbers of students going to college.

Plans for new educational programs are concentrated mainly in the colleges and community colleges, including a new Ph.D. program for nurses, a new baccalaureate program in nursing, and five associate-degree nursing programs—two to begin this fall. After 1968, two hospital based schools of nursing will be closed and another will change from a 3-year to a 2-year program. Also to be added are two new licensed practical nurse programs in hospitals, supported by MDTA funds.

A most encouraging aspect of the survey was the interest of community colleges in providing programs for which there is a real community need.

It is often difficult to distinguish between the formal educational program and the wide range of in-service training programs in the hospitals. The latter are shorter, less formalized, do not lead to a degree or certificate, are limited to hospital employees, and often are required to enable the employee to perform his job. Such training does not necessarily lead to advancement. Nurse aide training, offered in 41 hospitals, may last 5 weeks to several months, depending on the hospital.

The Associate Degree Nurse

For the most part, administrators, directors of nursing, and even directors of schools of nursing are favorably inclined toward the 2-year associate degree programs in the community colleges. Most said they would be willing to give up their own schools of nursing, after enough nurses are being graduated from the colleges to fill needs that are now being met by the hospital schools. However, the opinion is not unanimous.

The question is often raised whether it is possible to provide proper training in 2 years, when it has always taken 3 years. People favoring the 2-year program answer that much of the time in a 3-year program is devoted to repetition of nursing techniques that need not take so long to learn. Some support for this seems to be in the fact that several schools have already reduced their 36-month programs to 33 months, 30 months, and in one case to 24 months. The administrator of the latter program stated that the hospital had employed several 2-year graduates and found them just as well trained as 3-year graduates. This administrator stated that the hospital provides an in-service training program for all new nurses regardless of the number of years of training.

This may be the answer to the problem of the 2-year graduate. Hospitals may have to provide a 3- to 6-month in-service training program, with careful supervision. This is already being done by some hospitals. Others may have to do it, and may have to consider it as the price to be paid for not financing their own school.

Medical Technology

In recent years, the American Society of Clinical Pathologists has required 3 years of academic training, 1 year of hospital laboratory training, and the passing of an examination for certification. Although the intent was to upgrade the quality of laboratory personnel, these requirements have created something of a problem and have possibly intensified the manpower shortage in the laboratories.

Many colleges are not willing to grant a degree when the entire fourth year is spent in a hospital laboratory, in the belief that this dilutes the quality of the college degree. The answer to this may have to be worked out on a national level through discussions between ASCP and college interests.

In view of the magnitude of the manpower problem, it is obvious that the Hospital Council must develop an ambitious, imaginative, and far-reaching program in this area. Major energy should be devoted to this crisis before it becomes a catastrophe.

One activity that may bring some relief has been launched. There are approximately 4,000 inactive regis-

tered nurses in Maryland; if 10 percent of these could be induced to return to work, the shortage in nursing would be greatly eased. A statewide refresher program for inactive nurses has been funded by Manpower Development and Training Act authorities, to be started this fall for 624 persons.

Recommendations for Immediate Action

(1) Distribute the manpower report to all individuals, hospitals, colleges, and agencies interested in health manpower.

(2) Appoint a coordinating committee with the Maryland Nurses Association to work on regional planning for nursing education.

(3) An on-going program of careers development is needed to interest and attract more high school students into health careers. The Manpower Development Committee recognizes and approves the concept of careers development.

(4) Involve University of Maryland and Johns Hopkins University officials in discussions relating to their future roles in the education of paramedical personnel.

(5) Embark on a program to bring hospital wages and salaries in line with those prevailing in business and industry. Difficult though it may be, this obstacle must be removed.

One step in this direction of freeing funds for higher salaries will be a vigorous program to carry to fruition the Gruehn Report recommendation that the cost of nursing and technician education should be assumed by the State as a whole.

A study by the Hospital Cost Analysis Service shows that the *net* cost per nursing student is close to $2,500 per year for hospital-based schools. In 1964, there were 2,069 students enrolled in hospital diploma programs. At $2,500 each, this amounted to an expense of more than $5 million for the hospitals of Maryland.

(6) Establish an on-going activity for the purpose of finding answers to some of the internal blocks (such as promotional dead-ends) in personnel practices in the hospitals.

(7) Work with the Baltimore City and the County Departments of Education in establishing new programs and enlarging present programs for the training of personnel in the health field, including programs for after-hours training to enable present hospital employees to improve their skills or acquire new skills. Industry has learned the value of encouraging employees to obtain more education, and provides assistance through tuition payments, released time, etc.

(8) Study the establishment of a full-time recruitment office in the Hospital Council. Such an office should concentrate on scarce personnel, and should extend its efforts not only within the United States but also abroad.

(*Continued on page 87*)

CALIFORNIA PUBLICIZES JOB

Three Days in May

ARTHUR MORGAN

An estimated 90,000 jobseekers attended the Los Angeles "Career/Trade Opportunities Show" held May 13–15 to expose semiskilled and unskilled workers to the job potential in Southern California.

The purpose of this outstandingly successful show was to encourage the unemployed and those interested in bettering themselves to take advantage of available programs for education and training which more highly skilled jobs require.

Private industry, public utilities, governmental agencies, public and private trade schools, and branches of the Armed Forces set up attractive, eye-catching displays in Shrine Exposition Hall. Key facets in given occupational fields were demonstrated in a clear, interest-provoking manner in many of the more than 50 exhibition booths. Admission was free and, although the show was adult-oriented, young people were encouraged to attend.

From the first to last hour of the Los Angeles Career/Trade Opportunities Show, the booth prepared by the California Department of Employment was literally swamped by inquiries regarding job requirements and training opportunities. More than 3,000 promotional pamphlets and 8,000 California Occupational Guides were distributed at the Department of Employment booth.

Principal sponsor of the show—and to be commended highly for this community service—was Television Station KABC, Channel 7, Los Angeles, which absorbed most of the cost excepting minimal fees for booth spaces. The Area Manager for the Department of Employment in the Los Angeles Metropolitan Area served on the advisory committee formed to provide professional counsel to the sponsor.

KABC–TV widely publicized the 3-day event through appearance by screen and television personalities and

(*Continued on page 84*)

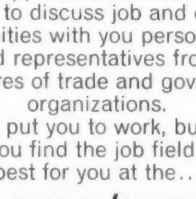
Arthur Morgan is Manager, Los Angeles Metropolitan Area, California Department of Employment.

DIRECTION

is what you need if you want to find a better job or learn a trade.
The right direction is what you'll get at your first annual Career/Trade Opportunities Show.
There to discuss job and career opportunities with you personally will be qualified representatives from industry and scores of trade and government organizations.
We can't put you to work, but we can help you find the job field that's best for you at the...

CAREER/TRADE OPPORTUNITIES SHOW

SHRINE EXPOSITION HALL
700 West 32nd Street • Los Angeles
Fri.-Sat.-Sun. • May 13-14-15
Open Daily 1 p.m. to 10 p.m.
Admission Free to the Public



Sponsored as a Community Service by Channel 7—KABC-TV

JOB OPPORTUNITIES

An Excellent Community Service

JACK F. BREMBECK

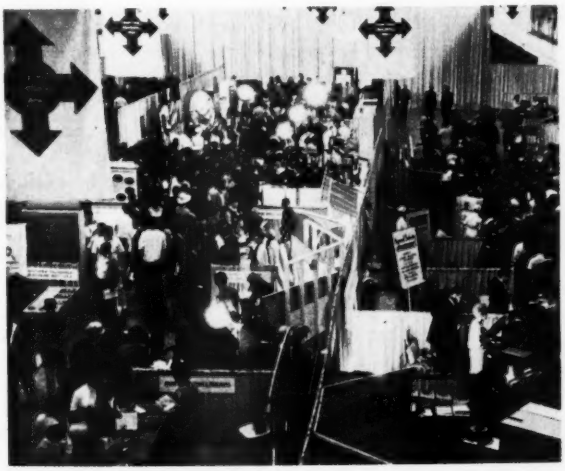
Station KABC–TV decided that it could perform a major community service by bringing together those persons with job opportunities and the mass of semiskilled and unskilled of Southern California. The Career/Trade Opportunities Show was the method chosen.

In the fall of 1965, Station KABC–TV had conducted a study on unemployment in Southern California. The findings that the many semiskilled and unskilled persons in the job market were in need of help were verified in discussions with the Los Angeles office of the State Department of Employment, the Los Angeles Chamber of Commerce, and the Southern California Industry Education Council. These agencies also confirmed the report by the McCone Commission and others that unemployment in the depressed areas of Los Angeles was a major factor in creating unrest in these particular sections of the city.

In response to KABC–TV's questionnaire sent to exhibitors following the show, the average exhibitor expressed the opinion that approximately 50 percent of the visitors were really looking for a job or were sincerely interested in retraining. Most felt the majority of visitors had potential for employment in their organizations. They reported that visitors thought the show was extremely beneficial, but expressed regret that there was no on-the-spot hiring.

It is impossible to determine the number of persons employed as a direct result of the show. However, we feel that those in attendance received information about where jobs might be found and what training and education was necessary to qualify. Applications for employment were actually given to some individuals. For example, the U.S. Post Office is keeping a record of the persons who applied to take the civil service examination for postal work. A report will be given to the station at a later date on the number who passed and the actual jobs filled.

Several overall observations were noted. The average person who attended was generaly well groomed, was serious-minded, and had come for a purpose. There were very few objectionable elements. Many had educational backgrounds far above the semi- and unskilled level. A surprising fact was that more whites than



Interior view of Shrine Exposition Hall as a portion of the 100,000 in attendance at the Career/Trade Opportunities Show obtain employment information.

Jack F. Brembeck is Director, Community Services, KABC–TV, Los Angeles.

At the Post Office Department booth at the Career/Trade Opportunities Show.

Negroes attended, even though advertising was weighted in the depressed areas. Nevertheless, attendance by Negroes, Mexican-Americans, and other minority groups was gratifying. Most visitors came in family groups.

In future expositions of this kind, consideration should be given to orientation for exhibitors prior to opening, representation by more industries, more information on opportunities for the elderly and handicapped, and more opportunities for women. The exposition should also be kept adult-oriented in areas where school systems have their own type of career and guidance show. However, young people, particularly high school graduates or dropouts, should be encouraged to attend. More exhibitors should have applications available for prospective employees to take with them. These then would be mailed or returned in person to the personnel departments. Even more promotion should be placed in the minority and depressed areas and possibly transportation to the show offered free. If any greater attendance is anticipated, booths should be manned by more personnel (average was two to three per booth). The success of a job exposition is the face-to-face confrontation between jobseekers and employers.

A Career/Trade Opportunities show is an excellent community service activity for any organization to undertake in almost any area of the United States. One of the major problems facing urban centers in America is the unemployment of semi- and unskilled persons. The job exposition is an ideal way to help solve this problem.

THREE DAYS IN MAY

(Continued from page 82)

many spot announcements. In addition, numerous newspaper articles appeared and car-cards were placed with the local bus systems. Just prior to the opening of the show, full-page advertisements were run in many local newspapers. The California Department of Employment participated directly in this publicity campaign by distributing announcements in its local office network. Part of the distribution was beamed at all workers filing initial or continued unemployment insurance claims from May 6 through May 12, 1966.

Professional observers agreed that expectations for the show were met and exceeded. Not only was it a highly effective method of bringing occupational information to public attention, but the carefully designed exhibit booth of the California Department of Employment was a showcase for its manpower development goals and services. We are looking forward to reaching an even larger number of those in the labor force who can benefit so directly from participation in community affairs of this nature.

Jack F. Brembeck, KABC–TV Community Services Director (right), and an official of the Los Angeles Rapid Transit District, display inside bus car-card and bus poster.

TRENDS in Health Occupations

JOHN L. BATCHELOR
and WALTER S. STUDDIFORD

New discoveries by the scientist and researcher, improved diagnostic and treatment equipment and procedures, and an increased demand for health services coupled with a continuous shortage of health manpower are contributing to the changing nature of health occupations.

Even the organizational structure of the hospital, where the largest variety of health occupations is to be found, has been affected. The introduction of the computer, for example, first in the business department, and latterly in patient care procedures, has created an entirely new department—data processing.

Preliminary findings of a study [1] now in progress in the U.S. Employment Service underline the fact that not only have the organizational and occupational structure of health care facilities changed, but also that a substantial number of new jobs have come into existence since 1952. A look at the occupational trends in certain areas in the hospital gives a general idea of the changing nature of health occupations and activities, and the emergence of others.

The Technician

Through the development and use of new diagnostic and treatment equipment and procedures, technological change and innovation have most visibly affected the occupational structure of many jobs. Although many of the devices used in patient care and patient monitoring have made an impact on some health occupations, particularly in the nursing service, it is in the development and use of treatment equipment that most of the "new" technicians are found. Frequently, new instruments are devised, and new procedures instituted before there are enough technicians qualified to utilize the equipment. This results in an ever-present need for more technicians. Depending on the complexity of this equipment, hospital workers may be retrained in a minimum amount of time; in other instances, complete training over a considerable period is necessary.

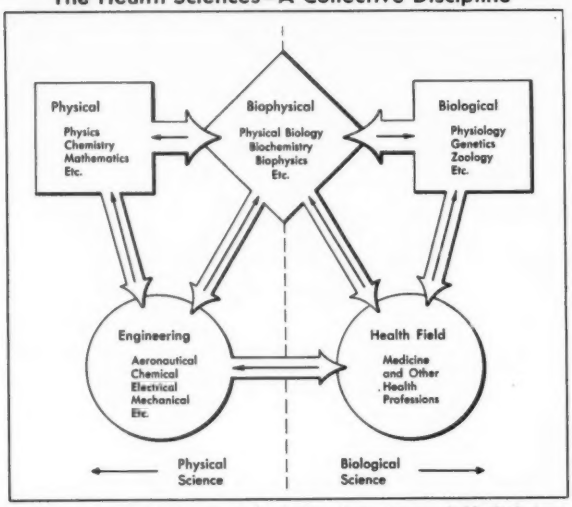
The hyperbaric chamber technician, for example, may monitor a device the general size and complexity of an iron lung; or he may operate a room-size piece of complicated equipment in which he and the patient are confined during treatment. Until a sufficient number of persons are trained in these operations, use of the hyperbaric chamber will be restricted.

Another important device, the artificial kidney machine, also illustrates the changing nature of an occupation, as well as some attendant difficulties. Today, only a relatively small number of persons suffering from uremic kidney disease have access to these machines, although they provide the only successful means of treating such patients. This limited availability is partly caused by the lack of personnel needed to operate the equipment, and partly by the high cost of treatment. Nurses are usually the first to be trained to use this device; this, in turn, causes some other hospital activity to be short-handed.

[1] Revision of the 1952 edition of *Job Descriptions and Organizational Analysis for Hospitals and Related Health Services.*

John L. Batchelor is an Occupational Analyst and Walter S. Studdiford is Chief, Occupational Information, U.S. Employment Service.

The Health Sciences—A Collective Discipline



The connecting arrows in this figure show the broad tielines of interaction among health-related sciences — those through which the parent sciences, physics and biology, come together in the biophysical disciplines; and those through which these sciences reach out to engineering and to the health field. The reverse pointer within each arrow indicates the feedback in this complex interchange. Through such interrelationships the basic sciences, together with mathematics and engineering, are sharing with medicine and other health professions in promoting the advancement of health research and the improvement of health services.

Unlike some others, the technicians mentioned above are directly involved with the patient, and there is no question that their activities should be considered health occupations. There are, however, other technicians, just as important and necessary to the effectiveness of the modern hospital, who are not in direct patient contact. They, too, are rightfully at home among health occupations. The electronics technician and the medical engineering technician, for example, are engaged in the design and repair of equipment such as the kidney machine and the hyperbaric chamber. Working with physicians and scientists, these workers utilize their engineering techniques and skills in the design and development of intricate measuring devices, artificial body parts, and instruments to aid in diagnosing certain diseases.

Perhaps the most publicized of these technicians are those involved in data processing. The computer programer, the systems analyst, and the computer operator are examples of highly skilled technicians in the hospital. These workers, combining expert knowledge of their field and collaboration with medical scientists, are now moving into research, and are finding new applications for data processing in hospital laboratories and research.

The Clinical Laboratory

Typically, work in a clinical laboratory of a nonresearch hospital consists largely of relatively routine tests. In the early days of medicine, these tests were all performed by a pathologist. As the nature and variety of these tests increased, the necessity for additional personnel, plus the realization that the more routine tests conducted by the pathologist could be done by lesser trained workers, gave rise to the medical technician and laboratory assistant. Recently, the introduction of the Auto-analyzer, a device capable of performing in a single day various laboratory tests that previously took technicians 2 or 3 weeks, has brought about a change in job elements of hospital laboratory personnel. The blood bank technologists and others who previously had to carry out manually numerous steps in the performance of many laboratory tests, may now devote a larger percentage of their time and efforts to conducting tests that have not yet been assumed by machines.

Specialization in the clinical laboratory, as evidenced by the cytotechnologist—a specialist in the detection of cellular changes—has given rise to attendant occupations. The tissue technician, who stains and mounts specimens of body tissue for study represents a laboratory occupation which may be a beginning step to one of the more technical jobs in the laboratory. Although a clear-cut occupational progression does not usually exist in the laboratory, workers frequently may be motivated to seek the additional training in order to qualify for more responsible positions. In this event, the training and experience gained as a laboratory worker are very valuable.

Other devices designed to increase the accuracy of tests and to reduce the time required to perform such tests have been introduced into the clinical laboratory. The Robot Chemist, which can separate and measure quantities of various substances present in body materials, the automatic pipets, and the Coulter automatic blood cell count-

A technician is teaching a patient how to administer medication to himself after he leaves the hospital.

er, are examples. Many of these instruments can be coupled with a digital computer to provide quickly certain information and carry out calculations which would require many man-hours if done by conventional methods.

The Nursing Service

There are more workers engaged in nursing and related services than in any other group of health occupations, and the duties of the professional nurse have expanded more than those in any other single occupation in the health field.

In addition to mastering the basic concepts of nursing, today's nurse has to learn the operation and function of a vast array of highly complex equipment. She may also specialize in a particular field—for example, anesthesiology, obstetrics, or pediatrics.

When new equipment is introduced in a hospital, the nurse is traditionally the first professional worker trained in its use. This was true of the X-ray machine, and the electrocardiograph. Although lesser skilled technicians may later assume responsibility for their operation, it is still true that the nurse is initially handed this responsibility.

The use of patient monitoring devices has changed the nurse's job to some extent. There may be less face-to-face relationship with the patient. The nurse may now monitor various instruments, either at a central location, or at the bedside, that give readings of temperature, heart rate, and other functions. At present, opinion varies as to how extensive the use of this equipment may become, and whether any nurse time will actually be saved.

Other Areas

Perhaps not a trend, but at least a noticeable movement, is the divorcing of some of the nonmedical service occupations required to run a hospital from the actual hospital staff. These include laundry and maintenance occupations, and standard food preparation.

This is not to diminish the importance of these services, but many health care facilities are finding it expedient to contract these services to outside specialists. In those institutions where these services are not contracted out, the manner in which the service is provided and the occupations involved have, in many instances, changed. The introduction of automatic laundry equipment (a continuous conveyor system—washing, drying, ironing) has halved the laundry staff in at least one institution.

We also find contract specialization within administration itself. The use of outside management consultants seems to be increasing, particularly among small hospitals whose full-time personnel staffs may not be adequate. Outside the hospital setting, a group of practicing physicians may band together and hire a clinic manager who handles all of their business matters, such as rental of office space, ordering supplies, hiring and supervising staff, and billing patients.

Many innovations in the health field represent a joint effort of the medical practitioner or other health worker, and a physicist, chemist, engineer, or other scientist. Many of the sciences, such as genetics and biology, have always been considered as health sciences. However, many scientific disciplines—physics, mathematics—not ordinarily considered as health oriented, have joined forces with these "traditional" health sciences.

The recent successful use of an "artificial heart" by Dr. Michael DeBakey, of Baylor University, is a graphic example of the effectiveness of the several disciplines of chemistry, physics, and engineering working closely together. The development of artificial parts for the human body, such as the cardiac pacemaker and the Starr heart valve, illustrates the interdependency of the various fields. The trend is toward specialization—but interdisciplinary in nature. Such specializations as biomathematics, aerospace medicine, and biophysics are becoming commonplace. Health occupations are becoming not only more diverse—but also more specialized. The increase in specialization brings many benefits to patient care. The specialist who devotes his time and energies to a more limited field can perform more effectively and, possibly, with greater personal satisfaction.

However, specialization makes more difficult the solution of a problem which has long plagued health services—the general lack of established career ladders. This lack adversely affects recruitment of young people into health services, and may lead to eventual discouragement of those already there. As health specializations increase in intensity and number, the greater and more rigid the formal requirements to enter the specialties become and, obviously, the more difficult, time consuming, and costly for persons to qualify for employment. Although this problem is being worked on, and probably a combination of changes in present practices will be required to solve it, the answer is not yet available.

Manpower in Maryland's Hospitals

(*Continued from page 81*)

Long-Range Recommendations

(1) An extensive study of nurse utilization should be explored.

(2) The use of educational television for nurse training and possibly for other paramedical fields should be investigated. As more and more colleges offer nursing programs, it may be possible to bring the hospital clinic to the college by way of closed-circuit TV.

(3) Considerable interest in health careers education of community colleges and 4-year colleges and universities requires a close working relationship with these educational institutions. The means of developing such close cooperation should be explored.

(4) The assistance of hospital auxiliaries and present employees should be sought in attracting potential candidates for employment and/or careers in the health field.

Health Manpower To Serve Migrant Farmworkers and Families

HELEN L. JOHNSTON

The Migrant Health Act of 1962, as amended in 1965, provides for grants by the Public Health Service to either public or private nonprofit organizations to pay part of the costs of projects to meet the health needs of migratory farmworkers and their families. When the act was extended in 1965 for a second 3-year period, hospital care was added to the scope of health services that could be supported, and the original $3 million authorized annual appropriation ceiling was more than doubled. For fiscal year 1967 the ceiling was $7 milmion. It was further increased by $1 million annually for 1968 and 1969.

The grant program started its fourth year on July 1, 1966. Ninety-one single or multicounty projects in 36 States and Puerto Rico are now receiving grant assistance. Two-thirds of these are sponsored by State or local public health agencies. The other third are under the auspices of local community or county governing bodies, medical societies, migrant committees or councils, interfaith church groups, local hospitals, and other community organizations.

Essentially, the migrant health program provides a "fringe benefit" to migratory farmworkers and families. Unlike most business and industry in the United States, agriculture with its typically temporary and tenuous employer-worker relationships is not set up to make such a fringe benefit available to its workers. Yet its workers and their families are as greatly in need of ready access to health services as any group in the Nation. Moreover, their health needs are typically difficult for communities to meet because of their geographic and social isolation, and possible lack of knowledge of good health practices or community health resources.

Generally, migrant health projects provide medical services to treat and prevent illness and disability through family health service centers scheduled at night in or near labor camps, or through other systematic casefinding, referral, and followup arrangements which provide realistic access to general medical care. The family health service centers are multipurpose clinics to serve workers and their family dependents. The projects also provide dental care, nursing services in the family health service centers and in the camps, sanitation services to help improve the living and working environment, health education, and necessary transportation of patients to local sources of care. Funds for hospitalization have not yet been appropriated, but this service can be added to medical care and other project services when funds become available.

Home-base areas such as south Florida, Puerto Rico, south Texas, Arizona, and parts of California have actual or potential farm migrants and family members in the area throughout the year. Migrant health projects in these home-base areas experience a lull rather than a complete cessation of activity when outmigration starts. Accordingly, they maintain a year-round staff to fulfill their important role of helping potential migrants prepare to move. The extent to which they succeed in this role diminishes the health problems presented by migrants in northern work areas.

Helen L. Johnston is Acting Chief, Migrant Health Branch, Division of Community Health Services, Department of Health, Education, and Welfare.

In the North, on the other hand, projects maintain only a skeleton staff, if any, on a year-round basis. The between-season staff is primarily for evaluation of the past season's work and for planning and developing the health program for the next migratory season.

Attempts to meet migrants' needs present special health manpower problems to both their home base and their northern work communities. Without systematic planning, there is no ready-made staff anywhere fully organized and prepared to meet their needs.

Tourists and Migrants Enhance Problems

Physician-population ratios in some migrant areas might suggest that the health manpower supply is fairly adequate. In Dade County, Fla., for example, the ratio is much more favorable than in many parts of the country. However, the Miami area of Dade County is one of the east coast's chief winter resort areas. The influx of winter tourists and the "homecoming" of the migrants may practically coincide. The same is true in some northern work areas such as the cherry areas of northern Michigan and Wisconsin. Here the summer tourists and the cherry pickers from south Texas arrive almost simultaneously. In such situations, the strain on available health resources is likely to leave the migrant at a considerable disadvantage compared with the tourist. Also, migrants are usually located some distance from urban centers. In these rural sections, health resources may be minimal even for year-round residents.

Certain rural counties of south Texas, New Mexico, and Arizona, although not resort areas, are handicapped by a chronic shortage of professional health manpower.

Regardless of the local availability of physicians, dentists, nurses, and other professional health workers, the underlying problem is the fact that the supply is relatively fixed, not easily expanded and contracted in order to serve a temporary influx of outsiders. If those outsiders are among the "hard-to-reach," as migrants have long been characterized by professional health workers, the problem is much more acute. Even with grant funds available from the Public Health Service to help support the expansion of health services for the duration of migrants' stay in an area, communities have had to use a great deal of ingenuity to meet the need.

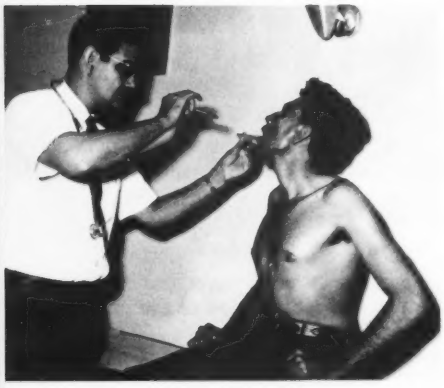
A class in health education for migrant farmworkers.

The projects resort to a variety of ways to solve their manpower problems. They attract local nurses who have retired from the work force to have families, and who are unwilling to work full time on a year-round basis. They find university faculty members and students from medical, dental, and nursing schools who are willing to come out to the farm labor camps to work in family health service centers. They readjust the schedules and redirect the efforts of some of the community's year-round health workers in order to meet the temporary need. They organize the night clinics so as to make the most effective and efficient use of the professional health workers' time. They select, train, and use a variety of volunteer or paid "health aides."

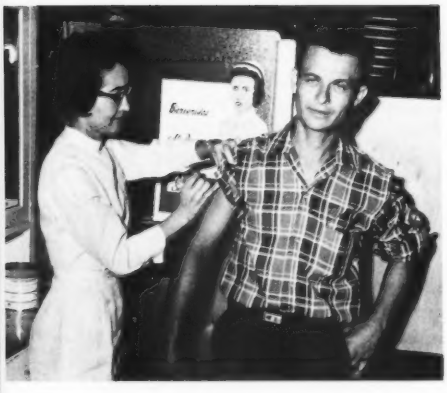
As a byproduct of the use of teenagers from the farm labor force as volunteer health aides, one migrant health project has opened up the possibility of health careers for some of the teenage girls. With financial assistance from community groups, these girls have been able to go to school to train for careers in nursing and social work. Without their experience in the migrant health project, and the consequent community recognition of their capability and interest, there is little possibility that this could have happened.

The most readily expandable health manpower resource in most migrant-impacted communities is the trained health aide. The aides free professional health manpower from tasks for which aides can be readily trained and which do not require a

The first interview is an important part of the health program for migrant farmworkers.



Physical examination.



Immunization.

person with professional health background. In many situations, aides also facilitate the provision of services by the special skills which they are able to bring to the situation. As an example, the health workers in Ohio, Michigan, Indiana, and Illinois have had slight contact, if any, with Spanish-speaking people. They, themselves, seldom are able to speak Spanish. They find also some of the migrant people's health behavior strange and incomprehensible. On the east coast, where language difference is less likely to be a problem, many health workers have nevertheless found that they have had to learn to understand a new vocabulary, new accents, and behavior that may vary from what they expect.

Liaison workers carefully selected from among migrants and ex-migrants often have been most helpful to professional health workers in breaking the barriers to interpersonal communication, understanding, and effective health care. Some health aides serve solely in the liaison worker role. Others are clerks, receptionists, busdrivers, sanitation aides, health education aides, and nursing aides.

Worker Chosen With Care

The effective health aide, however, does not come by chance. The specific need to be met and the job the aide will be expected to do must be carefully outlined in advance, the worker to do the job must be carefully selected, professional supervision must be arranged, and the supervisor must be thoroughly familiar with the duties of the person he is expected to supervise. Finally, the person selected must be trained for the work he is expected to do, the methods he will be expected to use, and the setting in which he will work, including to whom, when, and how he will report.

An Ohio county provides an example of experience with a health aide as an assistant in health education. The county had neither a full-time nor a part-time health educator on its staff. As a result, the full-time health education consultant on the State-level migrant project worked with the county to outline a job that could be performed by a health education aide.

A 21-year-old Spanish-speaking girl qualified for the position and was accepted after interviews by the local migrant health project staff and approval by the State-level Division of Health Education. The girl had come to the county originally as a migrant with her family. She was a high school graduate, literate in both English and Spanish. She was directly responsible to the local health commissioner who provided regular supervision, and she received technical assistance and supervision 1 day a week from the health educator from the statewide project. The first week was planned with the local project director (in this case the health commissioner) to acquaint the aide with the staff functions and some of the department's activities, as well as to introduce her to other agencies with which she would have working contact during the summer. A 5-day workshop for health aides was held immediately after the local orientation. In the middle of the migrant season, a 1-day followup training session for health aides enabled them to discuss and gain information about specific problem areas.

Among the functions and duties of health education aides in the State were the following:

1. Make home visits to discuss leaflets on improved nutrition through the use of nonfat dry milk.
2. Meet with migrant groups to show films and talk about methods of fly control.
3. Work with sanitarians to teach migrants the need for proper garbage and sewage disposal.
4. Act as go-between and follow up a referral of a crippled child to a clinic.
5. Interpret to growers and church and community groups the need for proper bedding for migrants.
6. Discuss the benefits of family health service centers with migrant families.
7. Pretest with migrant families a fly control poster.
8. Explain migrants' customs to

professional health workers so that they could work out better solutions to health problems.

Aides who served as clerks, receptionists, and busdrivers, of course, would receive somewhat different orientation and training for their jobs. However, proper job preparation for such aides is critical, since in some cases, they may be the first project staff member encountered by a migrant. Their acceptance or rejection of the migrant as a person might determine whether the migrant would readily accept project services.

The experience of serving migrants in their own setting was new, not only for aides selected from the resident community, but also for professional health workers involved in migrant health projects. The Migrant Health Act itself recognizes that "to serve a man you must first know him." Accordingly, it incorporates provision for grant support for orientation of workers in migrant health projects. In part because of personnel turnover, especially in highly seasonal short-term operations, many projects have annual orientation sessions for new and old staff. Some are scheduled jointly with other migrant health projects in the State. Some involve not only workers in health projects, but also those in day-care and educational projects for migrant workers and families sponsored by other organizations. They also frequently involve as consultants representatives of Farm Labor Service, welfare, and other public and voluntary agencies having contact with migrants.

The majority of projects have medical directors and all have physicians responsible for their medical aspects. However, the project directors and coordinators were drawn from many fields besides medicine or other health professions. They include scientists, county judges, clergymen, a local school teacher, and men

and women from other nonhealth occupations. Few of these persons had ever before engaged in the planning and development of a health project. Some of their learning came the hard way—bit by bit on the basis of experience. Some came through individual consultation by public health representatives or through conferences.

In the second year of the program, all project directors had an opportunity to learn from each other. Workshops brought them together along the major migratory streams to share experiences and discuss mutual problems. Two conferences have been held to develop guidelines to help project workers prepare better health teaching materials for migrants. A Central States' conference this spring was primarily for "firing line" workers in nursing, sanitation, and health education. It provided opportunity for face-to-face communication among health workers serving the same migrants at different points along the stream. Much was learned through the informal workshops. These provided maximum opportunity for exchange between home base and northern work area project staff members. An expected byproduct is a reduction in overlapping or duplication of services with improved interarea communication. This will conserve health manpower, as well as improve health services for migrants.

The learning process is a never-ending one for everyone engaged in helping to meet the health manpower needs of migrant health projects. Each year, projects report new adaptations to orient and use professional health manpower efficiently and effectively, new approaches to migrants that will gain appropriate participation and use of service more readily, new devices to avoid duplication or overlapping of effort, and new ways to select, train and use health aides and various types of auxiliary workers.

The problem of scarce professional health manpower is one that cannot be solved readily or quickly. The immediate alternative is the full, effective utilization of the trained health manpower that exists. This is the principal alternative toward which migrant health project effort is directed in fulfilling the program's major objective of serving migrants. Simultaneously, however, many of the projects and the Public Health Service are also encouraging new entrants into health occupations, at both the professional and subprofessional levels. Some of these new entrants are themselves migrant or exmigrant people whose potential is first discovered through migrant health project operation.

Sources: Reports of California, Ohio, New York, Puerto Rico, and other migrant health projects.

USES Test Research in Health Occupations

The U.S. Employment Service has conducted extensive research to develop aptitude test batteries for health occupations. At present, batteries are available for 23 health services occupations. These are: Certified laboratory assistant, dental assistant, dental hygienist, dental laboratory technician, dentist, food service worker, general practitioner, inhalation therapist, hospital maid, medical assistant, medical technologist, nurse aide, general duty nurse, licensed practical nurse, occupational therapist, occupational therapy aide, physical therapist, psychiatric aide, psychiatric technician, radiologic technologist, surgical technician, veterinarian, and ward clerk. Other new studies are underway.

The medical profession has recognized this research. The February 22, 1966, issue of *Medical Economics* advised physicians that test selection for medical assistants is available from their local Employment Service offices.

GFWC Project to Aid Youth

At its annual convention, the General Federation of Women's Clubs adopted the slogan "Build With Youth for a Better World." It pinpoints the focus of activities to be developed by the more than 11 million members in the next 2 years.

During October, regional seminars of the GFWC were held throughout the Nation. At these meetings, which Employment Service representatives attended, officers of the State federations took part in the discussions of 2-year project ideas. In cooperation with the GFWC national office, the USES had prepared kits of background materials regarding ES services to youth for each delegate. It also had arranged for the film, "What's In It for Me?" to be shown at the meetings.

Following local meetings of the GFWC groups to outline objectives, it is expected that many more club members will volunteer their services to local ES offices and YOC's.

YOC Activities

Imagination, initiative, and plain hard work characterize efforts being made in the Youth Opportunity Centers throughout the county to help disadvantaged youth. A sampling of some of the activities includes the following:

The *Sacramento YOC* has found a way to help young applicants brush up on their typing skills. The center has a moderate number of good typewriters that once were not in use between test sessions, but which now are being used by young people who wish to maintain their typing proficiency. They may sign up for two practice periods per week. The sessions last for 2 hours and are supervised by the test technician who gives help and advice when needed. Typing books were acquired from city school discards. When time permits, the test technician gives timed tests so that young applicants can measure their progress.

The Sacramento YOC also developed some interesting approaches to creating summer jobs for youth, which were carried out in conjunction with community agencies. For example, the Police Department gave instruction on how to care for homes of people on vacation, with classes open to students in the 7th through 12th grades. Other programs included training of youth by the Red Cross to care for small children at private home pools; instruction in the use of power lawnmower equipment and general care of lawns; and training in doing household chores, dog walking, and babysitting.

The *Billings, Mont., YOC* reports that the personnel manager of a large department store has found that contact with the YOC has supplied her needs for workers even for the peak Christmas and Easter periods. In fact, relations with the YOC staff have developed to the point where she plans to take part in Employment Service career days and group guidance programs advising youth on grooming and jobseeking tips.

At the *Buffalo, N.Y., YOC,* a staff of eight youth aides make house-to-house visits in assigned areas of the city to bring disadvantaged youth into the office to adquaint them with ES services. The Buffalo YOC also keeps in touch with the Job Corps enrollees with a dittoed news sheet sent to hometown boys at various camps throughout the country. The paper has cartoon illustrations and features sports news on the team back home, quotes from Buffalo boys in the Job Corps camps, interviews with a graduating Job Corps man and his family, and other items of interest to the boys away from home.

Previously unused typewriters have been made available for typing students in the Sacramento YOC.

ES School Program

Since 1950, the Hagerstown, Md., local ES office and the schools have worked closely together. Early in the program, school counselors were assigned periodic duty at the local

office to become familiar with all ES practices and procedures, and over the years have cooperated fully with the ES in all its activities.

Group registration for high school seniors who plan to enter the job market is done by the schools as part of an English class period in job application. The schools also have a closed-circuit television program. The ES has worked with them on a TV guidance series, "Careers for Tomorrow." Scripts for some of the programs have been written by State ES staff.

The interest and cooperation developed in Hagerstown is extending throughout Washington County. During the 1966–67 school year, 24 school counselors are taking part in the second Career In-Service Education Program developed by the Guidance Department of the Washington County Board of Education in conjunction with the Maryland Department of Employment Security and several local industries. The aim is to provide school counselors with a better understanding of the current job market and with the procedures and practices of the State ES and local industry as they effect referral and placement of workers.

Special attention is being given to learning more about factors underlying the rejection of young workers by industry and reasons why some are not retained after being hired. The program is expected to result in more realistic student counseling in terms of the actual demands made by industry upon the young entry worker, and to encourage maximum use of the State ES by the schools in helping their graduates and early leavers find suitable jobs.

YOC Volunteer Workers

Volunteer workers are contributing to the quantity and quality of services provided to young people in the Youth Opportunity Centers. Monthly reports from YOC's in several States indicate that carefully selected volunteers of all ages and different vocational and cultural backgrounds are working hard and effectively in a variety of capacities to help make opportunity a reality to increasing numbers of youth.

In other States, YOC managers report that they see opportunities for volunteers to help extend services through helping out in the office and in outreach activities. However, problems relating to accident and financial liability and the safeguarding of confidential applicant information have prohibited some YOC's from using volunteers until appropriate guidelines are issued by their State offices. These guidelines would specify the legal and regulatory requirements and conditions determining the nature and scope of activities which volunteers may perform in their agencies.

Those YOC's using volunteers say that effectiveness of volunteer workers depends as much upon careful planning, recruitment, selection, preparation, and supervision by the agency as does the effectiveness of paid employees. Monthly reports and field visit data indicate that a number of States have made significant

This register method makes waiting at the Sacramento YOC more pleasant.

progress in developing and implementing plans for locating and utilizing local persons who are willing to contribute their time and talents to serving people in their community. Most of the agencies stress the importance of making the volunteers and their activities an integral part of the YOC program, requiring a reciprocal commitment on the part of both agency and volunteer.

Such agreements commit the agency to provide appropriate orientation and supervision, and the volunteer worker to perform clearly defined duties. However, the selection of volunteers, definition of duties, and establishment of standards should be approached with flexibility and imagination in order to use the service of volunteers to the best advantage.

Community, civic, and fraternal organizations are local sources of individuals who possess qualities and skills enabling them to work with educationally and culturally disadvantaged youth. Volunteers have been found among the members of such groups as the Community Improvement League, Community Relations Advisory Committee, Jaycees, League of Women Voters, Federation of Women's Clubs, Women in Community Service, and Service Corps of Retired Executives. Many other local groups include retired teachers, counselors, social workers, and other professionally trained and experienced people as well as housewives who have developed an understanding of, and empathy for, young people.

Included in the most successful volunteer work so far have been remedial reading instruction; educational counseling; recruitment of Job Corps and NYC enrollees; reception, registration, and general clerical work; screening Women's Job Corps candidates in the YOC; group or individual discussions on good grooming, and proper conduct during an interview; summer jobs solicitation; acquiring, reviewing, and shelving occupational information and other publications of interest to youth; and evening hours followup on applicants to determine their progress on jobs or to ascertain reasons for failure to keep appointments.

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